



CLP 中電

2016 | SUSTAINABILITY  
REPORT

Energy for Brighter Tomorrows

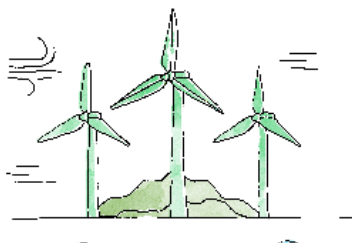
# Welcome to our 15th report

Powering the changing world today for a better tomorrow

In 2016, the world witnessed an important milestone in the environmental arena, as well as significant disruptions in the socio-political and economic arenas. In this changing world, we believe it is important to uphold our commitment to transparency and accountability in communicating with our stakeholders. Through our 2016 Sustainability Report, we aim to present a detailed picture of our performance on how we manage financial and other capitals to create value for our stakeholders over the long term.

## ABOUT CLP GROUP

CLP Holdings Limited is a publicly held company with a history in the electricity business dating back to 1901. We are currently one of the largest investor-operators of power assets in the Asia-Pacific region, with businesses across Hong Kong, Mainland China, India, Southeast Asia, Taiwan and Australia. Our business includes: power generation; transmission and distribution; electricity and gas retail activities; employing over 7,400 people; and serving about 5.2 million customer accounts.



## REPORTING PERIOD AND SCOPE



This report covers CLP Group's sustainability performance for the calendar year ending 31 December 2016. Different categories of data have specific reporting scopes which are set out in the Appendix. It is published at the same time as our Integrated Annual Report. Our previous report was published in March 2016.

This report has been prepared in accordance with GRI Standards: Core option. It also reports on the GRI G4 Electric Utilities Sector Disclosures. In addition, this report satisfies the "comply or explain" provisions as well as "recommended disclosures" of the Hong Kong Stock Exchange Environmental, Social and Governance (ESG) Reporting Guide (ESG Guide).

## ASSURANCE



Limited Assurance is provided by PricewaterhouseCoopers (PwC) on a selected set of environmental, social and governance-related Key Performance Indicators for this Report in accordance with International Standard on Assurance Engagements 3000 (Revised), *Assurance Engagements other than Audits or Reviews of Historical Financial Information*, and, in respect of greenhouse gas emissions, International Standard on Assurance Engagements 3410, *Assurance Engagements on Greenhouse Gas Statements*.

The scope of work is available in the assurance statement.

## WHAT'S NEW

- **Six Capitals Framework** – was applied to the performance-related chapters of the Report to align with the Capital sections of the Integrated Annual Report as we continue to work towards a more integrated reporting approach;
- **Sustainable Development Goals (SDGs)** – were prioritised in 2016 and reported in the Capital chapters to help identify where our strategy and activities align with them;
- **Video Clip** – was produced to present how our company creates value for our stakeholders in a story-telling format;
- **XBRL-tagged report** – was not produced this year as the XBRL taxonomy has yet to be updated in accordance with the new GRI Sustainability Reporting Standards.

## WHAT'S MORE

- **In Essence Report** – a summary report that focuses on the "most material" topics identified through our materiality assessment;
- **Asset Performance Statistics** – performance factsheets for each of the 22 assets in the environmental scope; and
- **Interactive Charts** – Group performance data presented in an interactive format.

For more details, please visit our website.

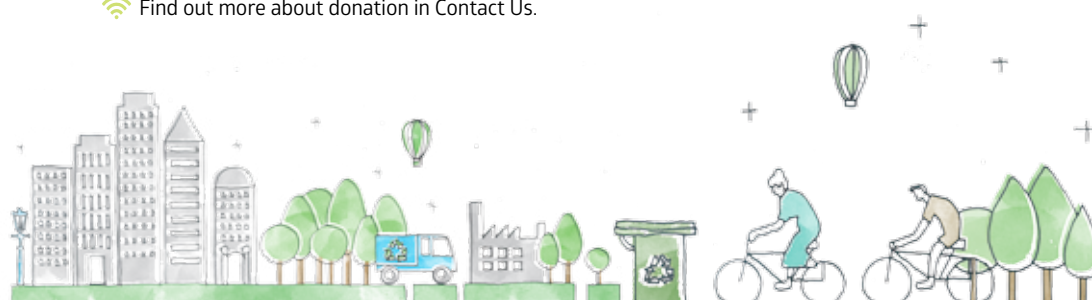
## GIVE US YOUR FEEDBACK



For every feedback we receive on our Annual Report, our Sustainability Report and / or our Annual Report snapshot online, we will donate HK\$60 to two designated charities, up to a maximum total donation of HK\$350,000.

Submit your feedback here.

Find out more about donation in Contact Us.



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"We look forward to working together with governments, businesses and civil society to create the new capabilities and solutions needed to achieve a sustainable net zero carbon future."

With all the unpredictable events that occurred across the world in 2016, from the UK to the US to China, it will likely be remembered as a year of uncertainty. We are not immune to the implications of these events, nor to the global forces behind them. However, we have managed to continue to operate our businesses steadily and reliably, delivering dependable growth across the portfolio. We have achieved this by consistently identifying and adapting to the challenges ahead.

### *The Global Trends*

The next challenge we will be facing over the next decade is driven by the two global trends of climate change and technological evolution.

We are glad to see that the Paris agreement on climate change has been adopted and ratified in record time. However, this is just the beginning. For a transition of the energy sector towards a low carbon future, we need to have in place a sustainable set of regulatory structures that facilitate the transition to a cleaner energy mix, financing

mechanisms to support that change, as well as conventional and renewable energy sources that are reliable and affordable. We must also accept that different parts of the world will require different solutions and so we look forward to continued and active involvement with governments and communities to help formulate the regulations required to facilitate this energy transition.

The digital revolution is changing the face of our industry and offers many exciting opportunities. Our business in the next five





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to ten years may be very different to what it is today. We will be part of the smart infrastructure in the city and we need to be proactive in playing that role. We have already set up an innovation team to work on these areas and with the launch of the Smart Charge initiative with HKT as an example, we believe we have made good progress thus far. With the formation of our new innovation team, we are set to look at a range of potential technology applications and business models. We believe the review of our “Climate Vision 2050” will also support CLP to meet the objectives set out in the Paris Agreement, as we pursue these new business models.

As we navigate through the challenge, we believe that customer-centricity will be the key to our success. We, along with the rest of our industry, must respond in a timely manner in order to avoid or mitigate the potential risks and materialise on the exciting business opportunities that these trends will pose. Leveraging our years of retail experience in two very different markets, Hong Kong and Australia, we believe we are in a strong

position to continue to strengthen our customer-centric capabilities.

## Safety Performance

Safety is our first priority and our goal is to have zero injuries at each of our sites. We continued to reduce our injury rates in 2016, although sadly three of those injuries were fatal incidents at sites under our operating control. All involved contractors with two of the incidents relating to falls from height and the other an assault on a security guard at a remote location. Even one life lost is one too many and we would like to take this opportunity to express our deepest sympathies to the families of all those men. We would also like to express our sincere condolences to the family of a contractor worker who lost his life at Castle Peak Power Station in late February while carrying out cleaning work. We investigate all of these incidents thoroughly to learn the lessons which we hope will help us to avoid similar incidents in the future.

## Moving Forward

Amidst all the uncertainties we face, there is one certainty that exists – a sustainable net zero carbon future cannot be achieved by business alone. It will undoubtedly require collaboration across all sectors and we look forward to working together with governments, businesses and civil society to create the new capabilities and solutions needed to achieve this global goal.



**The Honourable Sir Michael Kadoorie**

*Chairman*

*CLP Holdings Limited*



**Richard Lancaster**

*Chief Executive Officer*

*CLP Holdings Limited*

Hong Kong, 27 February 2017



# Our Business & 2016 Highlights

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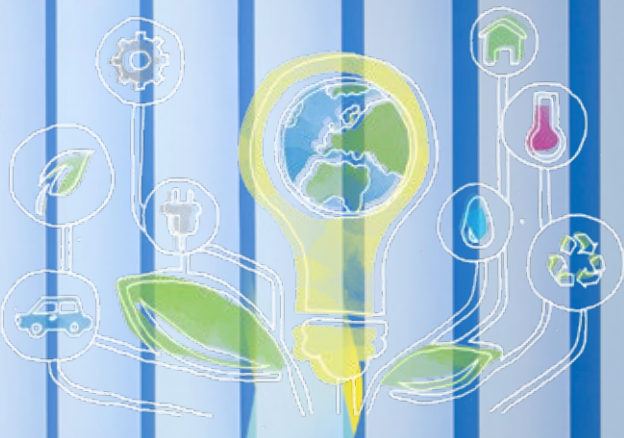
  

OUR VALUE CHAIN	OUR CAPITALS	OUR ASSETS AND SERVICES	2016 PORTFOLIO CHANGES	2016 VALUE TO OUR STAKEHOLDERS	2016 SUSTAINABILITY RATINGS	2016 AWARDS AND RECOGNITION	2016 KEY PERFORMANCE INDICATORS	2016 MATERIALITY ASSESSMENT
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The purpose of our business is to power the sustainable development of the communities in which we operate and our success is tied to how we manage our capitals and deliver value to our key stakeholders.



# ENERGY FOR BRIGHTER TOMORROWS



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## OUR VALUE CHAIN

**We procure, operate, sell and engage responsibly throughout our value chain so that we can be a sustainable business.**

CLP Holdings Limited is a publicly held company with a history in the electricity business dating back to 1901. Our core business is to provide electricity to customers reliably at a competitive price, with the least impact on the environment and delivering positive impacts to the communities we operate in.

Our headquarters and largest business unit is located in Hong Kong, where we are listed on the Hong Kong Stock Exchange. In addition to our Hong Kong business (under the brand of “CLP Power Hong Kong”), we also have business units in Mainland China, India (under the brand of “CLP India”), Southeast Asia & Taiwan, and Australia (under the brand of “EnergyAustralia”).

Locally, CLP acts in different roles across the electricity value chain, depending on the local constraints and market characteristics

we operate in. As a Group, our products span the entire value chain, from power generation to high voltage transmission and local distribution, to gas and electricity retail services.

Much of our business outside Hong Kong lies in the production of electricity, and all of our business units own sizable generation assets. Our generation fleet consists of coal, gas, nuclear, wind, hydro and solar power facilities.

Through our retailing businesses in Hong Kong and Australia, we manage approximately 5.15 million customer accounts. Our customers include both businesses and residential households. Our wholesale customers include grid companies in Mainland China and electricity distribution companies and intermediaries in India, which purchase power directly from our generation assets.

We procure mostly from local suppliers to support the local community while meeting CLP’s business needs. Our preferred suppliers are those who are ethical and committed to sustainable development, and have a track record on Health, Safety, Security & Environmental (HSSE) competence. They should be capable of meeting the expectations of our Responsible Procurement Policy Statement (RePPS).





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## OUR VALUE CHAIN (CON'T)

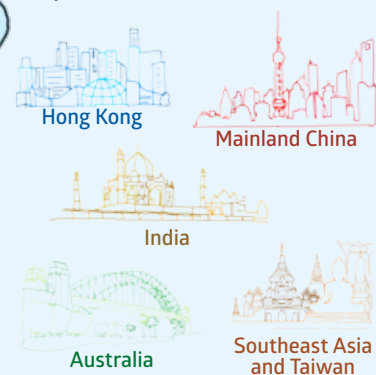


### CAPITALS

- ◆ Financial Capital
- ◆ Natural Capital
- ◆ Human Capital
- ◆ Social and Relationship Capital
- ◆ Intellectual Capital
- ◆ Manufactured Capital

### GENERATION

- ◆ Design and Build Power Stations
- ◆ Operate Power Plants



### DELIVERY

- ◆ Design and Build Transmission and Distribution Networks
- ◆ Operate Transmission and Distribution Networks



### CUSTOMER

- ◆ Smart Energy Use
- ◆ Customer Promise and Experience



### VALUE TO STAKEHOLDERS

- ◆ Capital Providers
- ◆ Government and Regulators
- ◆ Customers
- ◆ Employees
- ◆ Suppliers and Contractors
- ◆ Community

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## OUR CAPITALS

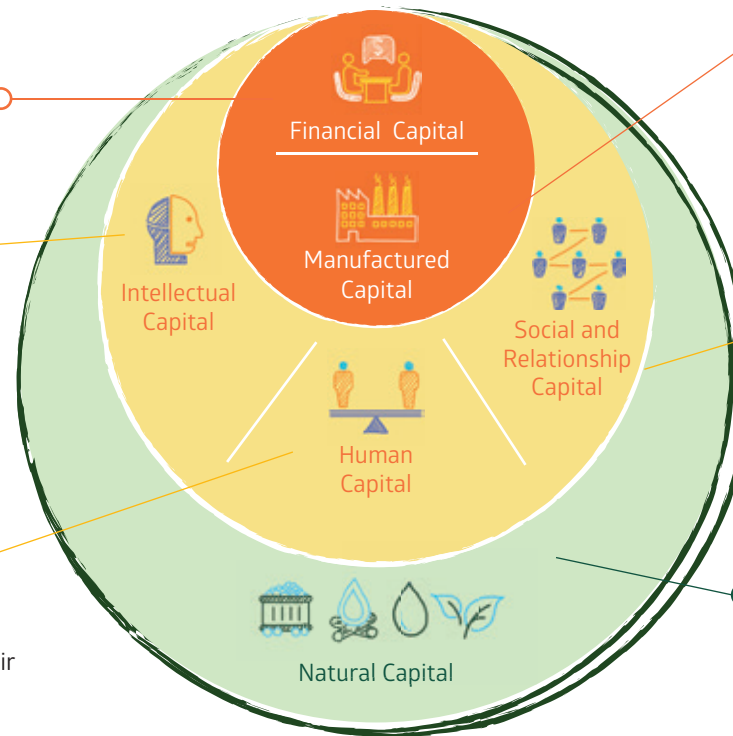
We manage the flow of capitals as the basis of our value creation model.

The success of our business relies not only on financial capital, but also on other capitals including manufactured, natural, intellectual, human, social and relationship capital. Our ability to manage, utilise and transform these capitals is key to creating value for our stakeholders.

**The funds** (in the form of equity, bonds, bank loans and perpetual capital securities) available from investors / shareholders and lenders to invest and produce the goods and services we sell.

**The knowledge-based intangibles**, including: intellectual property; subject knowledge and expertise; and experience in developing and implementing standards, systems and processes, etc.

**Our people's competencies**, capabilities and experience, their motivation to innovate, as well as their support for our values, vision and mission, as a consequence of the measures we take to attract and retain talent.



**The man-made physical assets** procured from our suppliers and services from our contractors to produce energy or other related services, as well as the energy and other related services that we in turn produce or deliver.

**The relationships** established with our customers, regulators and communities, to ensure we have the necessary legal and social licences to operate for the sustainability of our business.

**The environmental resources** that we use to produce the energy or services we sell, as well as the impacts we have on them as a result of our business activities, including: fossil fuel and renewable energy use; and potential impacts on air, water, land, biodiversity, etc.

Reference: International Integrated Reporting Framework, International Integrated Reporting Council (IIRC)

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## OUR ASSETS AND SERVICES

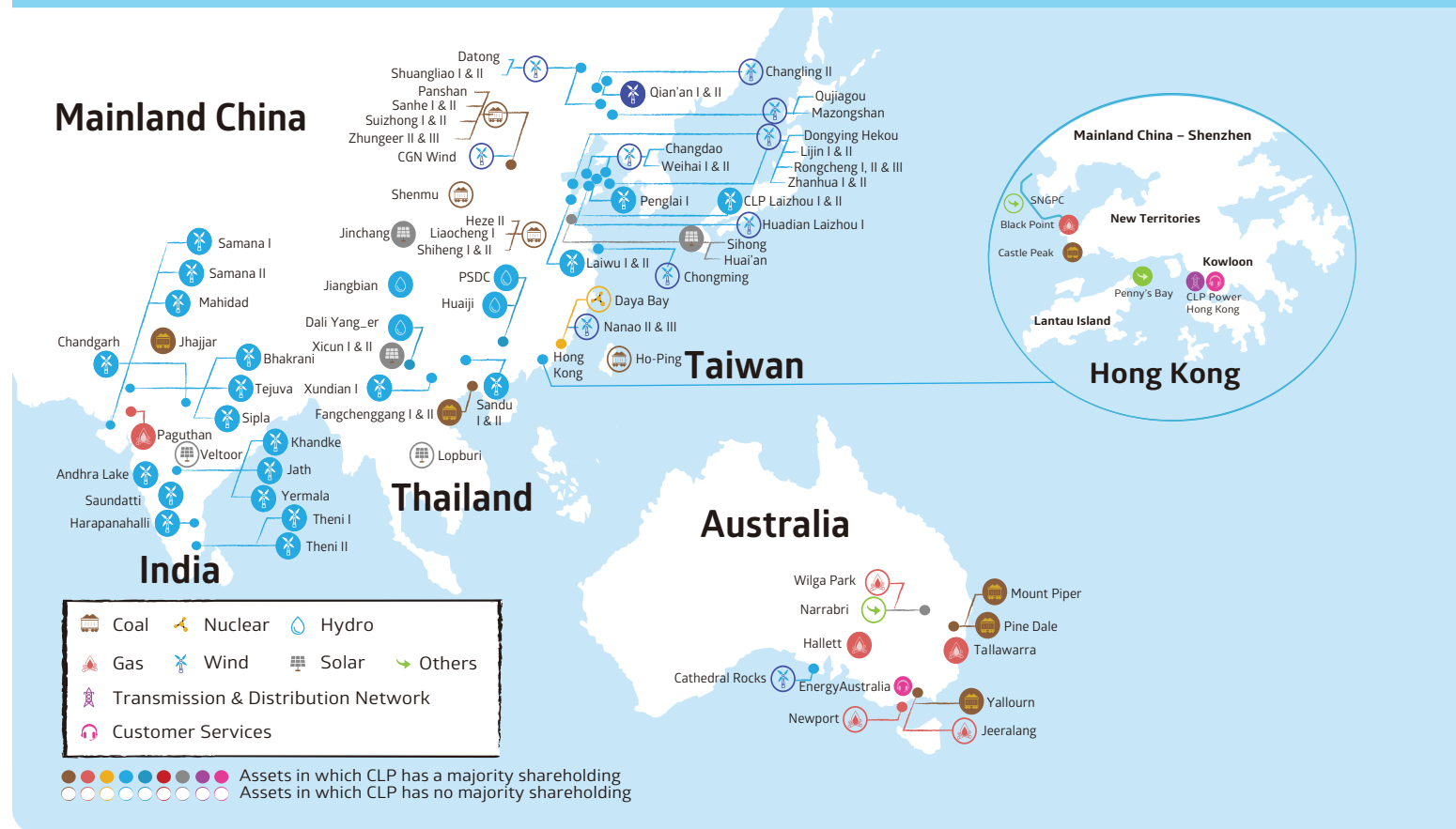
We invest to build on and preserve the value of our assets, capabilities and relationships.

We build, operate and own assets for the long term and therefore must protect their value over the same period so that we can be operationally sustainable.

As of 31 December 2016, we had 7,428 employees and our market capitalisation was HK\$180 billion. Our revenue for 2016 was HK\$79,434 million coming from 133,275 million kWh of electricity sent out from our assets.

See details on the relevant ownership and legal entities on our website.

### CLP's Assets & Services





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## 2016 PORTFOLIO CHANGES


We communicate on changes in our operations that may affect employees, customers, investors, partners, the environment, the community, or other stakeholders.

2016 saw a few incremental changes to our portfolio of assets. This is in line with how we manage our portfolio. Although we are continuously making adjustments to it, we make our investment decisions carefully as we own and operate our assets for the long term.

Under our Climate Vision 2050, we are committed to growing our investment in renewable energy projects across the Group and we continue to make significant progress. In 2016, we invested HK\$1.2 billion in renewable projects. Our operating earnings from renewable energy increased from HK\$471 million in 2015 to HK\$610 million in 2016, mainly due to the commissioning of new wind projects and increased contributions from hydro projects in Mainland China.

To provide an indication of whether our significant investment agreements and contracts include human rights clauses, CLP reports the percentage of funding for all non-recourse financing and refinancing that was provided by banks which have adopted the Equator Principles. In 2016, slightly less than half of this funding came from these Equator Principle banks (2015: slightly over half). The refinancing in 2015 by EnergyAustralia was executed mostly with banks adopting the Equator Principles, but such an exercise was not repeated in 2016, resulting in the reduced percentage.

The main asset portfolio changes this year are presented here.

 See a detailed list of our assets on our website.

### Expansion of our renewables portfolio in Mainland China

In 2016, we continued to expand our renewables portfolio in Mainland China by adding 275MW to our wind and solar capacity. We commissioned three wind farms including Xundian I in Yunnan province, Sandu I in Guizhou province and CLP Laizhou I in Shandong province. Our solar portfolio grew with our acquisition of the remaining 49% shareholding in Sihong in Jiangsu province from our joint venture partner in July. This lifted the size of our renewables portfolio in Mainland China to over 2,000MW.

### Expansion of our renewables portfolio in India

2016 marked our entry into India's solar energy segment through a joint venture with Suzlon Group to develop a 100MW project in Telangana. CLP owns a 49% stake in the Veltoor Solar Farm with an option to acquire the remaining 51% in the future. The project is expected to be commissioned by mid-2017.

### Commissioning of Fangchenggang II in Mainland China

In the fourth quarter of 2016, we successfully commissioned two new coal-powered units amounting to 1,320MW, which use the most advanced ultra-supercritical technology at Fangchenggang Power Station Phase II in the Guangxi Zhuang Autonomous Region.

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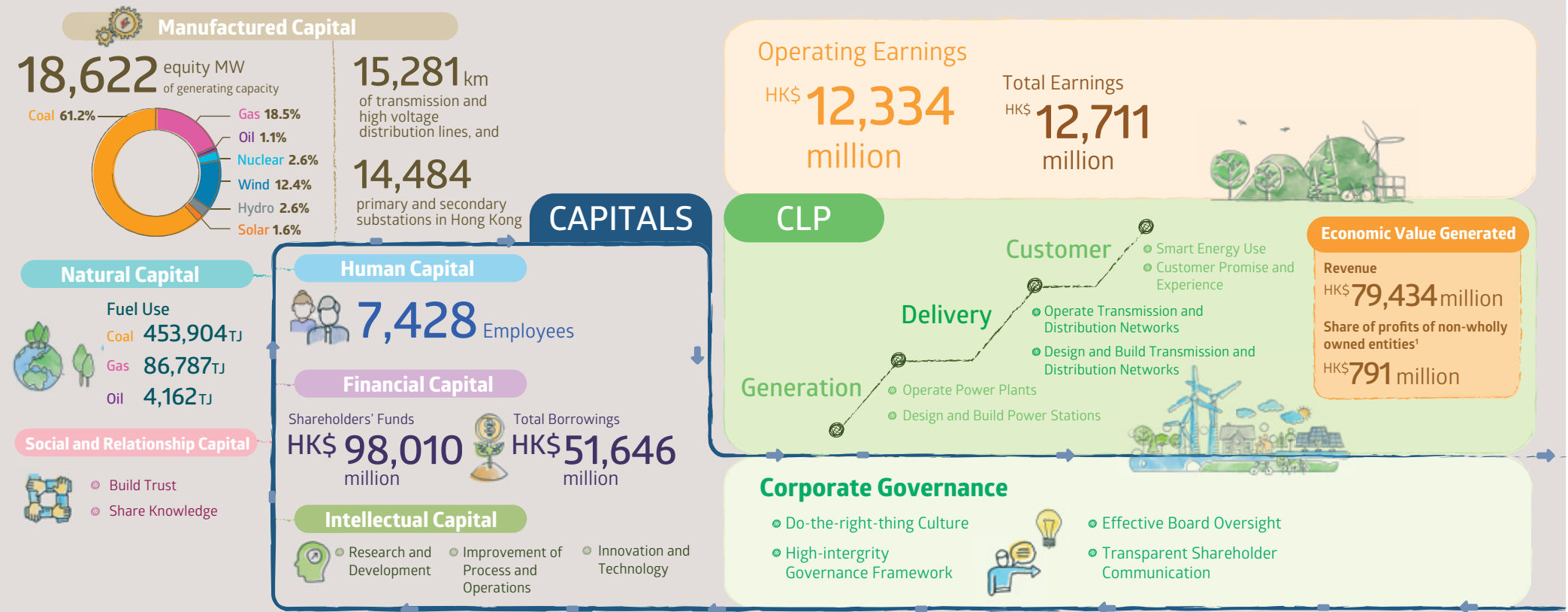
## 2016 VALUE TO OUR STAKEHOLDERS

At the heart of our success is our value creation process, which draws on various inputs and through our business activities converts them to outputs that create positive value for our stakeholders.



Check out our latest video!

### Value Creation Journey



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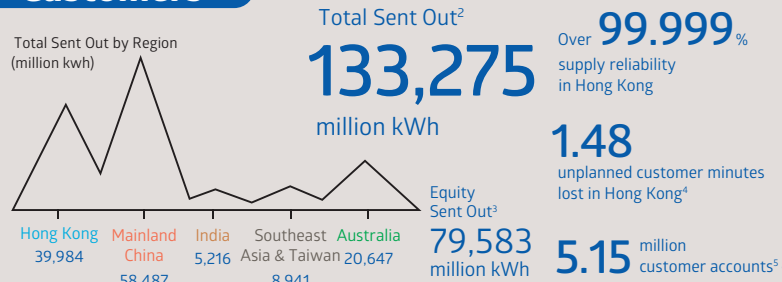
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## 2016 VALUE TO OUR STAKEHOLDERS (CON'T)

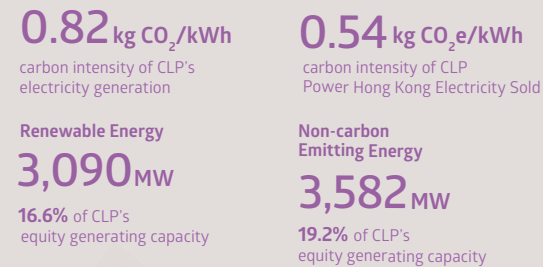
### Value Creation Journey (Con't)

#### VALUE CREATED

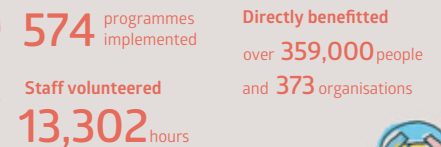
##### Customers



##### Environment



##### Community



#### Economic Value Distributed

##### Suppliers and Contractors



##### Employees



##### Community



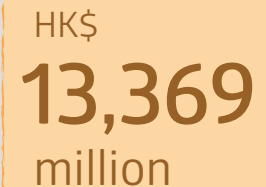
##### Capital Providers:



##### Government and Regulators



#### Economic Value Retained<sup>7</sup>



#### Notes:

- Share of profits represents share of results (net of income tax) from joint ventures and associates netted with earnings attributable to other non-controlling interests
- From power stations in which CLP has invested and capacity purchase arrangements
- On equity basis and capacity purchase arrangements

- Average of the past 36 months
- Including 2.52 million in Hong Kong and 2.63 million in Australia
- Netted with finance income and include payments made to perpetual capital securities holders

- Represents earnings attributable to shareholders (before depreciation, amortisation and deferred tax) for the year retained



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## 2016 SUSTAINABILITY RATINGS

**We track our performance on selected international and local sustainability indices to help us improve our performance and stay ahead of the potential emerging sustainability issues.**

CLP is listed in the Dow Jones Sustainability Asia Pacific Index (DJSI Asia Pacific), the Dow Jones Sustainability Asia Pacific 40 Index (DJSI Asia Pacific 40) and the Hang Seng Corporate Sustainability Index Series. We also monitor CLP's performance on CDP—Climate.

Combined, these indices provide us with a reference point for our sustainability performance relative to other companies in our industry, region and around the world.

We provide detailed responses to annual data requests issued by the organisations which produce the DJSI, the Hang Seng Corporate Sustainability Index and CDP—Climate. The 2016 performance scores presented here were received in September and October 2016 and were based on our 2015 calendar year performance data. The historical performance scores are also based on the previous year's performance.

In the past, we also reported our Bloomberg ESG scores but we did not do so this year, since starting from 2016, to provide greater transparency around a company's ESG performance in the benchmarking process, Bloomberg began to carry RobecoSAM ESG percentile rankings and metrics, which are used for the DJSI. We welcome the change to align with the DJSI and given Bloomberg ESG database's prominence in the investor community, we will continue to check our data and make sure our ESG performance is truly reflected in the Bloomberg system so we can stay competitive in the market.

 For more details, please see here.

### DOW JONES SUSTAINABILITY INDEX

The DJSI is a globally recognised index which includes companies from a wide spectrum of industries. CLP has been a constituent of the DJSI Asia Pacific Index and the DJSI Asia Pacific 40 Index since they were launched in 2009.

During 2016, CLP conducted a deep-dive analysis to look for performance areas to improve on. As a result of this effort, our score increased to an all-time high of 73 in 2016 from 57 in 2015. This translates into a 28% year on year increase, while the DJSI Asia Pacific increased by less than 10% and DJSI Electric Utility Industry Average did not change.

### DJSI CLP and Electric Utilities Industry Average & Asia Pacific Average Scores

	Company Score	Electric Utilities Industry Average Score	Asia Pacific Average Score
2016	73	52	68
2015	57	52	62
2014	63	56	62

MEMBER OF  
**Dow Jones Sustainability Indices**  
 In Collaboration with RobecoSAM 

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## CDP

CLP tracks its performance on CDP—Climate because it is one of the most influential investor-related carbon performance assessments in the world.

There was a major change in its scoring methodology from 2015 to 2016. Under the new methodology, CLP received the score of “A-”, the highest for companies in Hong Kong. Although our 2016 score is not directly comparable to that of 2015, it did improve, mainly due to reduction in our carbon emissions in 2015.

### CDP Climate Score (2016 Methodology)

	Score
2016	A-

### CDP Disclosure and Performance Scores

	Disclosure Score	Performance Score
2015	96	C
2014	95	B
2013	94	B



## HANG SENG CORPORATE SUSTAINABILITY INDEX

The Hang Seng Sustainability Index is a local index which helps us better understand our sustainability performance relative to other Hong Kong and Mainland Chinese companies listed on the Hong Kong Stock Exchange.

CLP has been listed on the Hang Seng Corporate Sustainability Index and Hang Seng (Mainland China and Hong Kong) Corporate Sustainability Index since it was launched in 2010.

In 2016, CLP had the best overall score in the utility industry. We also had the highest overall score in corporate governance across the Index Series for the third year in a row. Similar to past years, CLP also received an “AA” rating from HKQAA for our performance.

### HKQAA Rating

	Rating
2016	AA
2015	AA
2014	AA



Hang Seng Corporate Sustainability Index  
Series Member 2016-2017



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## 2016 AWARDS AND RECOGNITION

We reflect upon the awards and recognition we have achieved during the year to better understand the changing public expectations on business.

### Hong Kong Institute of Certified Public Accountants

#### Best Corporate Governance Awards - Sustainability and Social Responsibility Reporting Award

For the sixth year in a row, CLP won the Hong Kong Institute of Certified Public Accountants' Sustainability and Social Responsibility Reporting Award (the Hang Seng Index Category).



### The Hong Kong Management Association

#### Sustainability Reporting Award

For the fifth year in a row, CLP won The Hong Kong Management Association's Sustainability Reporting Award – General Category.





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## 2016 KEY PERFORMANCE INDICATORS

We continually improve by managing, monitoring and reporting our performance.

These tables present a quantitative overview of our 2016 performance. The indicators are selected from the Global Reporting Initiative (GRI) Standards as well as other key performance metrics. All of the 2016 data presented in these tables, except that which is shaded, have been independently assured by PricewaterhouseCoopers.

Governance	Note	Unit	2016	2015	2014	2013	2012	GRI Standard	HKEx ESG Reporting Guide Reference
<b>Governance</b>									
Convicted cases of corruption		cases	0	0	0	0	0	205-3	B7.1
Breaches of Code of Conduct		cases	21	6	7	12	14		

Financial	Note	Unit	2016	2015 <sup>1</sup>	2014 <sup>1</sup>	2013 <sup>1</sup>	2012 <sup>1</sup>	GRI Standard	HKEx ESG Reporting Guide Reference
<b>Financial Information</b>									
Economic value generated									
Revenue	2	HK\$M	79,434	80,700	92,259	104,530	104,861	201-1	
Share of profits of non-wholly owned entities		HK\$M	791	10,299	3,820	4,022	3,004		
Economic Value Distributed									
Fuel Costs		HK\$M	12,785	15,446	14,736	15,350	14,548		
Other Operating Costs		HK\$M	38,689	41,705	53,870	70,408	67,252	201-1	
Staff expenses		HK\$M	3,892	3,649	3,980	3,017	2,935	201-1	
Finance costs	3	HK\$M	2,371	4,183*	4,201	6,349	6,101	201-1	
Dividends		HK\$M	7,074	6,822	6,619	6,493	6,301	201-1	
Taxes	4	HK\$M	2,032	1,818	1,571	839	882	201-1	
Donations		HK\$M	13	15	12	8	4	201-1	
Economic value retained	5	HK\$M	13,369	17,361*	11,090	6,088	9,842	201-1	

\* Figures have been restated for the adoption of HKFRS 9 on hedge accounting

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# Our Business & 2016 Highlights

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Safety	Note	Unit	2016	2015	2014	2013	2012	GRI Standard	HKEx ESG Reporting Guide Reference
<b>Safety</b>	6								
Fatalities (employees only)	7	number	0	0	0	0	0	403-2	B2.1
Fatalities (contractors only)	7	number	3	0	1	1	N/A	403-2	B2.1
Fatality Rate (employees only)	8	rate	0.00	0.00	0.00	0.00	N/A	403-2	B2.1
Fatality Rate (contractors only)	8	rate	0.02	0.00	0.01	0.01	N/A	403-2	B2.1
Lost Time Injury (employees only)	9	number	3	8	4	5	N/A	403-2	
Lost Time Injury (contractors only)	9	number	10	8	19	28	N/A	403-2	
Lost Time Injury Rate (employees only)	8, 9	rate	0.04	0.10	0.05	0.06	N/A	403-2	
Lost Time Injury Rate (contractors only)	8, 9	rate	0.07	0.06	0.15	0.22	N/A	403-2	
Total Recordable Injury Rate (employees only)	8, 10	rate	0.11	0.18	0.26	0.23	N/A	403-2	
Total Recordable Injury Rate (contractors only)	8, 10	rate	0.18	0.28	0.51	0.50	N/A	403-2	
Days lost (employees only)	9, 11	number	9	199	105	29	240	403-2	B2.2

Employees	Note	Unit	2016	2015	2014	2013	2012	GRI Standard	HKEx ESG Reporting Guide Reference
<b>Employees</b>									
Employees based on geographical location								102-7	B1.1
Hong Kong		number	4,450	4,438	4,405	4,394	4,345		
Mainland China		number	560	527	480	469	539		
Australia		number	1,983	1,998	2,143	1,745	1,302		
India		number	435	397	359	360	391		
Other locations (Southeast Asia & Macau)		number	–	–	–	–	4		
Total		number	7,428	7,360	7,387	6,968	6,581		
Employees eligible to retire within the next five years	12							EU15	
Hong Kong		%	17.3%	16.2%	15.4%	15.2%	14.0%		
Mainland China		%	12.1%	11.9%	11.1%	12.2%	11.9%		
Australia		%	11.4%	10.9%	9.2%	10.9%	11.9%		
India		%	0.9%	0.8%	1.4%	0.8%	0.8%		
Other locations (Southeast Asia & Macau)	13	%	N/A	N/A	N/A	N/A	N/A		
Total		%	14.1%	13.3%	12.4%	13.0%	12.6%		
Voluntary staff turnover rate	14, 15							401-1	B1.2
Hong Kong		%	2.3%	2.8%	2.6%	1.9%	–		
Mainland China		%	3.4%	2.6%	2.5%	2.6%	–		
Australia		%	12.6%	13.7%	11.6%	9.4%	–		
India		%	8.4%	9.8%	13.2%	10.1%	–		
Other locations (Southeast Asia & Macau)		%	N/A	N/A	N/A	N/A	–		
Training & Development									
Training per employee		average hours	49.2	57.2	43.4 <sup>(16)</sup>	5.5	5.6	404-1	B3.2

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Environment	Note	Unit	2016	2015	2014	2013	2012	GRI Standard	HKEx ESG Reporting Guide Reference
<b>Resource Use and Emissions</b>	17								
Coal consumed (for power generation)		TJ	<b>453,904</b>	450,937	541,865	433,763	361,819	302-1	A2.1
Gas consumed (for power generation)		TJ	<b>86,787</b>	95,591	63,268	73,510	86,200	302-1	A2.1
Oil consumed (for power generation)		TJ	<b>4,162</b>	2,892	2,345	1,973	8,200	302-1	A2.1
CO <sub>2</sub> e emissions from power generation (Scopes 1 & 2)		kT	<b>46,681</b>	46,723	53,258	44,258	38,464	305-1 305-2	A1.2
CO <sub>2</sub> emissions from power generation (Scopes 1 & 2)	18	kT	<b>46,518</b>	46,553	53,044	44,076	38,319		
Nitrogen oxides emissions (NO <sub>x</sub> )		kT	<b>58.1</b>	56.3	74.6	50.2	42.9	305-7	A1.1
Sulphur dioxide emissions (SO <sub>2</sub> )		kT	<b>71.2</b>	63.4	93.0	50.5	35.1	305-7	A1.1
Total particulates emissions		kT	<b>8.5</b>	9.8	11.5	5.5	4.7	305-7	A1.1
Water withdrawal								303-1	A2.2
from marine water resources		Mm <sup>3</sup>	<b>4,202.3</b>	4,447.6	4,774.5	4,987.9	4,648.6		
from freshwater resources		Mm <sup>3</sup>	<b>48.2</b>	48.8	52.9	37.2 <sup>(19)</sup>	35.4		
from municipal sources		Mm <sup>3</sup>	<b>6.5</b>	6.6	6.6	6.2 <sup>(19)</sup>	5.8		
Total		Mm <sup>3</sup>	<b>4,257.0</b>	4,503.0	4,834.0	5,031.0	4,689.6		
Water discharged								306-1	
cooling water to marine water bodies		Mm <sup>3</sup>	<b>4,202.3</b>	4,447.6	4,774.5	4,987.9	4,648.6		
treated wastewater to marine water bodies		Mm <sup>3</sup>	<b>1.5</b>	1.1	1.3	1.2	1.1		
treated wastewater to freshwater bodies		Mm <sup>3</sup>	<b>13.6</b>	12.6	14.5	10.1	14.0		
wastewater to sewerage		Mm <sup>3</sup>	<b>1.6</b>	1.6	1.8	1.5	1.7		
wastewater to other destinations		Mm <sup>3</sup>	<b>0.2</b>	0.1	0.1	0.1	0.3		
Total		Mm <sup>3</sup>	<b>4,219.2</b>	4,463.0	4,792.2	5,000.8	4,665.7		
Hazardous waste produced	20	T (solid) / kl (liquid)	<b>1,302 / 1,251</b>	641 / 2,832	484 / 2,783	337 / 1,228	262 / 1,500	306-2	A1.3
Hazardous waste recycled	20	T (solid) / kl (liquid)	<b>260 / 1,149</b>	203 / 1,176	89 / 1,463	34 / 981	25 / 1,023	306-2	
Non-hazardous waste produced	20	T (solid) / kl (liquid)	<b>8,317 / 84</b>	11,455 / 199	21,142 / 78	7,700 / 0	10,830 / 21	306-2	A1.4
Non-hazardous waste recycled	20	T (solid) / kl (liquid)	<b>2,963 / 84</b>	4,414 / 199	4,172 / 78	1,853 / 0	2,719 / 4	306-2	
Environmental regulatory non-compliances resulting in fines or prosecutions		number	<b>0</b>	1	1	0	0	307-1	
Environmental licence limit exceedances & other non-compliances		number	<b>2</b>	13	3	4	1	307-1	
<b>Climate Vision 2050 Target Performance (Equity Basis)</b>	21								
Total renewable energy generation capacity		% (MW)	<b>16.6 (3,090)</b>	16.8 (3,051)	14.1 (2,660)	16.3 (2,579)	20.2 (2,734)		
Non-carbon emitting generation capacity		% (MW)	<b>19.2 (3,582)</b>	19.5 (3,543)	16.7 (3,152)	19.4 (3,071)	23.8 (3,226)		
Carbon dioxide emissions intensity of CLP Group's generation portfolio	22	kg CO <sub>2</sub> / kWh	<b>0.82</b>	0.81	0.84	0.82	0.77	305-4	A1.2
<b>Carbon Emissions Intensity of CLP Power Hong Kong Electricity Sold</b>									
CO <sub>2</sub> emissions intensity of electricity sold by CLP Power Hong Kong		kg CO <sub>2</sub> / kWh	<b>0.54</b>	0.54	0.63	0.63	0.58		
CO <sub>2</sub> e emissions intensity of electricity sold by CLP Power Hong Kong		kg CO <sub>2</sub> e / kWh	<b>0.54</b>	0.54	0.64	0.63	0.58		

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## Notes to the KPI tables:

- 1 Comparative figures have been restated to conform with current year's presentation.
- 2 Represents share of results (net of income tax) from joint ventures and associates netted with earnings attributable to other non-controlling interests and includes gain on sale/purchase of investments.
- 3 Finance costs is netted with finance income and include payments made to perpetual capital securities holders.
- 4 Represents current income tax but excluding deferred tax for the year.
- 5 Represents earnings attributable to shareholders (before depreciation, amortisation and deferred tax) for the year retained.
- 6 The system of rules applied in recording and reporting accident statistics complies with the International Labour Organization (ILO) Code of Practice on Recording and Notification of Occupational Accidents and Diseases. Each year's safety data cover the incidents that happened in that calendar year and are based on the latest information available at the time of publication.
- 7 A fatality is the death of an employee or contractor personnel as a result of an occupational illness / injury / disease incident in the course of employment.
- 8 All rates are normalised to 200,000 worked hours, which approximately equals to the number of hours worked by 100 people in one year.
- 9 An occupational illness / injury / disease sustained by an employee or contractor personnel causing him / her to miss one scheduled workday / shift or more after the day of the injury (including fatalities). A lost time injury does not include the day the injury incident occurred or any days that the injured person was not scheduled to work and it does not include restricted work injuries.
- 10 Total recordable injuries count all occupational injury incidents and illness other than first aid cases. They include fatalities, lost time injuries, restricted work injuries, and medical treatment.
- 11 It refers to the number of working days lost when workers are unable to perform their usual work because of an occupational accident or disease. A return to limited duty or alternative work for the same organisation does not count as lost days.
- 12 The percentages given refer to full-time permanent staff within each location, who are eligible to retire within the next five years.
- 13 There have been no permanent staff in "Other locations (Southeast Asia & Macau)" since 2012.
- 14 Voluntary turnover is employees leaving the organisation voluntarily and does not include dismissal, retirement, separation under a separation scheme or end of contract.
- 15 In Mainland China, voluntary staff turnover rates refer to both permanent and short-term employees. In all other regions, voluntary staff turnover rates refer to permanent employees only.
- 16 Training per employee has been reported in average hours of training since 2014. Prior to 2014, training per employee is reported in average days of training.
- 17 Covers operating facilities where CLP has operational control for the full calendar reporting year.
- 18 Includes CO<sub>2</sub>e emissions of Yallourn and Hallett facilities as CO<sub>2</sub> emissions data were not available.
- 19 Data updated to align with reporting definition.
- 20 Waste categorised in accordance with local regulations.
- 21 "Equity basis" includes all majority and minority share facilities in the CLP Group portfolio.
- 22 CGN Wind not included as per the Greenhouse Gas Protocol due to its accounting categorisation since 2013.



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## 2016 MATERIALITY ASSESSMENT

We conduct our **Boundary Scoping and Materiality Identification (BSMI)** assessment to not only identify the material topics determined by internal and external stakeholder opinion, but also to ensure all material business entities relevant to each of the material topics have been included.

### OUR APPROACH 102-46

In our Value Framework, we have published our Commitment to communicate regularly on the economic, social and environmental impact of our business and on changes in our operations that may affect employees, customers, investors, partners, the environment, the community, or other stakeholders.

 See Commitments On Communications and Reporting.

We developed the Boundary Scoping and Materiality Identification (BSMI) methodology to not only identify the material topics determined by internal and external stakeholder opinion, but also to determine the reporting boundaries for the material topics to ensure the scope of relevant material business entities included is complete. This customised methodology defines the key content of this report.

### Boundary Scoping and Materiality Identification (BSMI) Methodology

Features of BSMI Methodology		
Multi-functional	Diversity and inclusion	Leveraging existing stakeholder engagement channels
Meets multiple needs, including external requirements (GRI Standards and HKEx ESG Guide) and internal requirements (Internal Control, CLP Value Framework).	Includes input from subject matter experts who manage a variety of functions ranging from planning, finance, risk, innovation, environment, employees, safety, security, procurement, legal affairs to community.	Internal subject matter experts draw on feedback from regular engagements with their key stakeholders during their daily operations, to help deliver more relevant and appropriate results.

### Two-pronged Approach

Boundary Scoping	Materiality Identification
Takes on the business-entity approach to ensure completeness in addressing all material business entities across the Group in the Sustainability Report. Which business entities are material or not can differ depending on the subject area. As a result, different reporting boundaries are defined in terms of which business entities are included in the different topics or categories of financial and non-financial information.	Identifies the sustainability topics in line with GRI requirements (GRI Standards launched in 2016) and the Electric Utilities Sector Disclosures. The 41 topics, including 33 in the GRI Standards and 8 in the Sector Disclosures, are prioritised and grouped into our four sustainability focus areas. The most material topics are mapped to show which parts of our value chain they impact the most.

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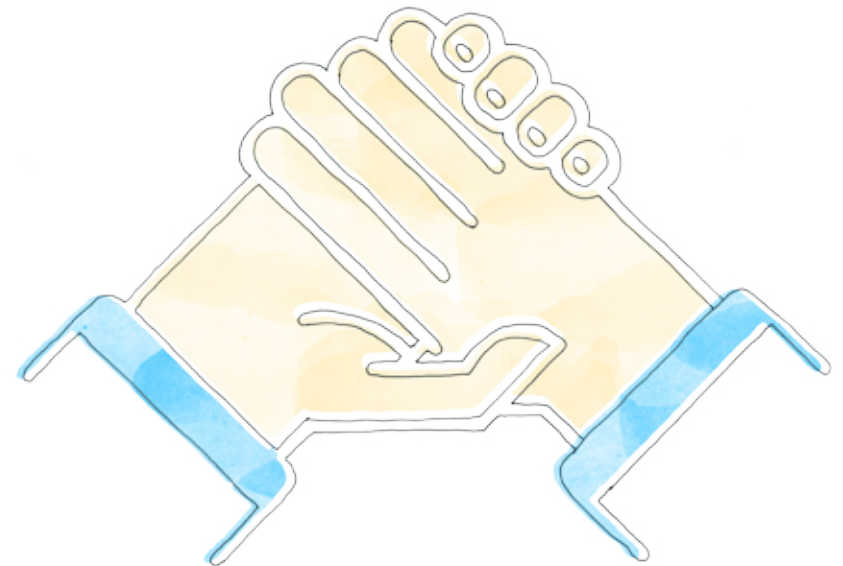
The BSMI has two parts. The first part, Materiality Identification, identifies the topics that matter most to our business and to our stakeholders by allocating one score from our business perspective and one score from our external stakeholders' perspective, using a scale of 1 to 5, with 5 being most material. If the score is 3 or above for either perspective, it is deemed material. Our rationale is that if a topic is material to us or our stakeholders, then it should be considered material. Our most material topics are the ones for which there is a score of 4 or above for either perspective.

**102-45** **102-46** The second part of the BSMI, Boundary Scoping, addresses the question of which business entities should be included in the reporting scope of these material topics. We have found that the entities excluded in the consolidated financial statement may be less material under financial accounting rules, but could

be material from an environmental, social or governance-related risk perspective. For example, given today's social media, when an organisation or individual has been perceived to have acted unethically, any connection to that organisation or individual, even if you have no financial influence over the situation or the connection is weak, may still lead to potential reputational damage.

Hence, our approach is to start from a complete long list of all legal business entities within our company, and Group Sustainability works with the Corporate Secretariat and Group Finance to deliver a shorter list of active entities that have gross fixed assets or revenues. Our internal subject matter experts then map out which of these active entities are materially relevant to each of their material topics. Different topics may have different reporting boundaries as what business entities or activities are most material for one topic can be different for another.

The effectiveness of our approach to determining materiality for this report is tested by: annual internal controls testing of the BSMI process; internal audit of our Sustainability Reporting process every three years; and annual external independent assurance of a portion of our most material Environmental, Social and Governance (ESG) data.



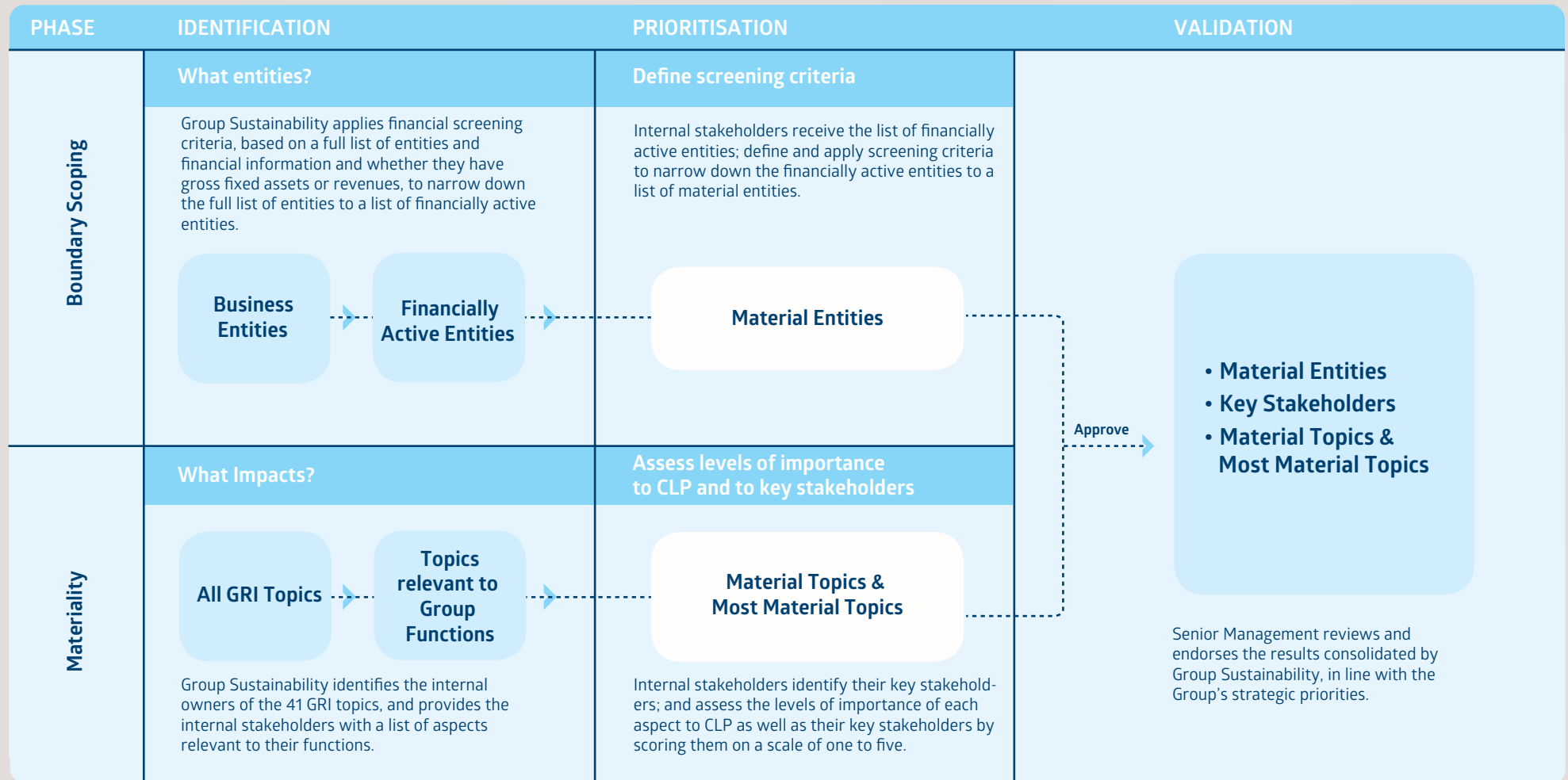
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## Boundary Scoping and Materiality Identification (BSMI) Implementation 102-46

In 2016, we further strengthened the internal engagement and governance processes by involving more internal stakeholders in the Identification and Prioritisation phases and included a new phase of Validation by the Sustainability Executive Committee to review and endorse the BSMI results.



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## 2016 DEVELOPMENT 102-46

The BSMI methodology was developed in 2013 to prepare for the transition of our reporting from using the GRI G3.1 to G4 Guidelines. In 2014, we reported in accordance with the G4 Guidelines when the BSMI process was fully launched. The methodology was improved in 2015 with a focus on further prioritisation of the most material topics.

In 2016, the Materiality Identification process was further improved.

- **Identification** – the Materiality Identification step used the 41 GRI Topics (33 and 8 in the GRI Standards and Electric Utilities Sector Disclosures respectively) instead of the 54 GRI Aspects in G4 as the universe of topics for assessment by our internal subject matter experts;
- **Prioritisation** – the three key factors that contribute to the prioritisation of the topics are:
  - Materiality of risk – whether the topics could result in material consequences on our business or are likely to happen;
  - Business efficiency – whether the topics affect the efficiency of our systems and processes from strategy formulation to day-to-day operations; and
  - Licence to operate – whether the topics have substantial impacts on our ability to obtain and maintain legal and social licences to operate.
- **Validation** – Senior Management reviews and endorses the results consolidated by Group Sustainability, in line with the Group's strategic priorities.

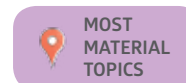
## 2016 RESULTS 102-47

The 2016 BSMI process concluded with all 41 topics identified as being material, of which 18 topics were most material. The differences in the list of most material topics from last year are as follows:

Public Policy	↑	Elevated to be amongst the most material topics due to the increasingly prominent role of policy in shaping the future of the energy sector after the Paris agreement on climate change officially entered into force in 2016
Human Rights Assessment	↑	Elevated to be amongst the most material topics to reflect our corporate responsibility to respect human rights extends to our network of suppliers and contractors
Anti-competitive Behaviour	↓	Downgraded to being a material topic as the Competition Ordinance in Hong Kong has been in place for a year and we have successfully implemented our compliance programme, and there was no new instances of anti-competitive conduct in our Group

In the GRI Standards, Equal Remuneration for Women and Men and Product Responsibility Compliance are renamed as Diversity and Equal Opportunity and Socioeconomic Compliance respectively. They remain in the list of most material topics.

The 18 most material topics are mapped to where they impact the most on our value chain. The most material topics can be identified by the Most Material Topic labels where they appear in this report.



For boundary scoping, the reporting scopes of the financial and non-financial information were defined in terms of business entities. Different topics may include different business entities. For example, our Group environmental team focuses primarily on operationally controlled entities with generation, transmission and distribution assets which could pose material impact to the environment, rather than those with only offices activities which comparatively impose less material impact to the environment.



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## 2016 Materiality Matrix 102-47

The list below shows the 41 GRI topics mapped according to their importance to CLP and our stakeholders. Amongst the 41 material topics, 18 topics were prioritised as most material. All 41 material topics are included in this 2016 full report. Only the 18 most material topics are the focus of the [In Essence](#) report.

	ECONOMIC SUSTAINABILITY	OUR ENVIRONMENT	OUR PEOPLE	OUR COMMUNITY
Most Material Topics	<ul style="list-style-type: none"> <li>• Availability and Reliability</li> <li>• Demand-side Management</li> <li>• Customer Privacy</li> <li>• Anti-corruption</li> <li>• Economic Performance</li> </ul>	<ul style="list-style-type: none"> <li>• Environmental Compliance</li> <li>• Energy</li> <li>• Emissions</li> </ul>	<ul style="list-style-type: none"> <li>• Occupational Health and Safety</li> <li>• Employment</li> <li>• Diversity and Equal Opportunity</li> <li>• Human Rights Assessment</li> <li>• Non-discrimination</li> <li>• Labour / Management Relations</li> <li>• Training and Education</li> </ul>	<ul style="list-style-type: none"> <li>• Public Policy</li> <li>• Socioeconomic Compliance</li> <li>• Local Communities</li> </ul>
Material Topics	<ul style="list-style-type: none"> <li>• Disaster/ Emergency Planning and Response</li> <li>• System Efficiency</li> <li>• Customer Health and Safety</li> <li>• Access to Electricity</li> <li>• Marketing and Labelling</li> <li>• Provision of Information</li> <li>• Procurement Practices</li> <li>• Research and Development</li> <li>• Plant Decommissioning</li> <li>• Indirect Economic Performance</li> <li>• Anti-competitive Behaviour</li> </ul>	<ul style="list-style-type: none"> <li>• Water</li> <li>• Effluents and Waste</li> <li>• Biodiversity</li> <li>• Supplier Environmental Assessment</li> <li>• Materials</li> </ul>	<ul style="list-style-type: none"> <li>• Child Labour</li> <li>• Forced or Compulsory Labour</li> <li>• Freedom of Association and Collective Bargaining</li> <li>• Market Presence</li> <li>• Security Practices</li> </ul>	<ul style="list-style-type: none"> <li>• Supplier Social Assessment</li> <li>• Rights of Indigenous People</li> </ul>

Note : There are no non-material topics

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## Impacts along Our Value Chain 102-49

The 18 most material topics are mapped (indicated by “”) according to where they impact our value chain the most, whether within or outside the CLP Group.

Most Material Topics	CLP's Value Chain					Reference
	Outside CLP	Inside CLP			Outside CLP	
	Capitals	Power Generation	Power Delivery	Retail	Value to Our Stakeholders	
Economic Sustainability						
Availability and Reliability						<a href="#">Power Generation and Delivery</a>
Demand-side Management						<a href="#">Intellectual Capital</a>
Customer Privacy						<a href="#">Retail</a>
Anti-corruption						<a href="#">Code of Conduct</a>
Economic Performance						<a href="#">Economic Value Generated and Distributed</a>
Our Environment						
Environmental Compliance						<a href="#">Regulations and Compliance</a>
Energy						<a href="#">Power Generation and Delivery</a>
Emissions						<a href="#">Greenhouse Gas Emissions</a> <a href="#">Air Emissions</a>
Our People						
Occupational Health and Safety						<a href="#">Health, Safety, Security and Environment</a>
Employment						<a href="#">Health, Safety, Security and Environment</a> <a href="#">Employees</a>
Diversity and Equal Opportunity						<a href="#">Employees</a>
Human Rights Assement						<a href="#">Employees</a>
Non-discrimination						<a href="#">Employees</a>
Labour / Management Relations						<a href="#">Employees</a>
Training and Education						<a href="#">Employees</a>
Our Community						
Public Policy						<a href="#">Governments and Regulations</a>
Socioeconomic Compliance						<a href="#">Legal Compliance</a>
Local Communities						<a href="#">Community</a>

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Climate change, technological breakthrough and demographic and social change are three of the most influential emerging global trends for our company.





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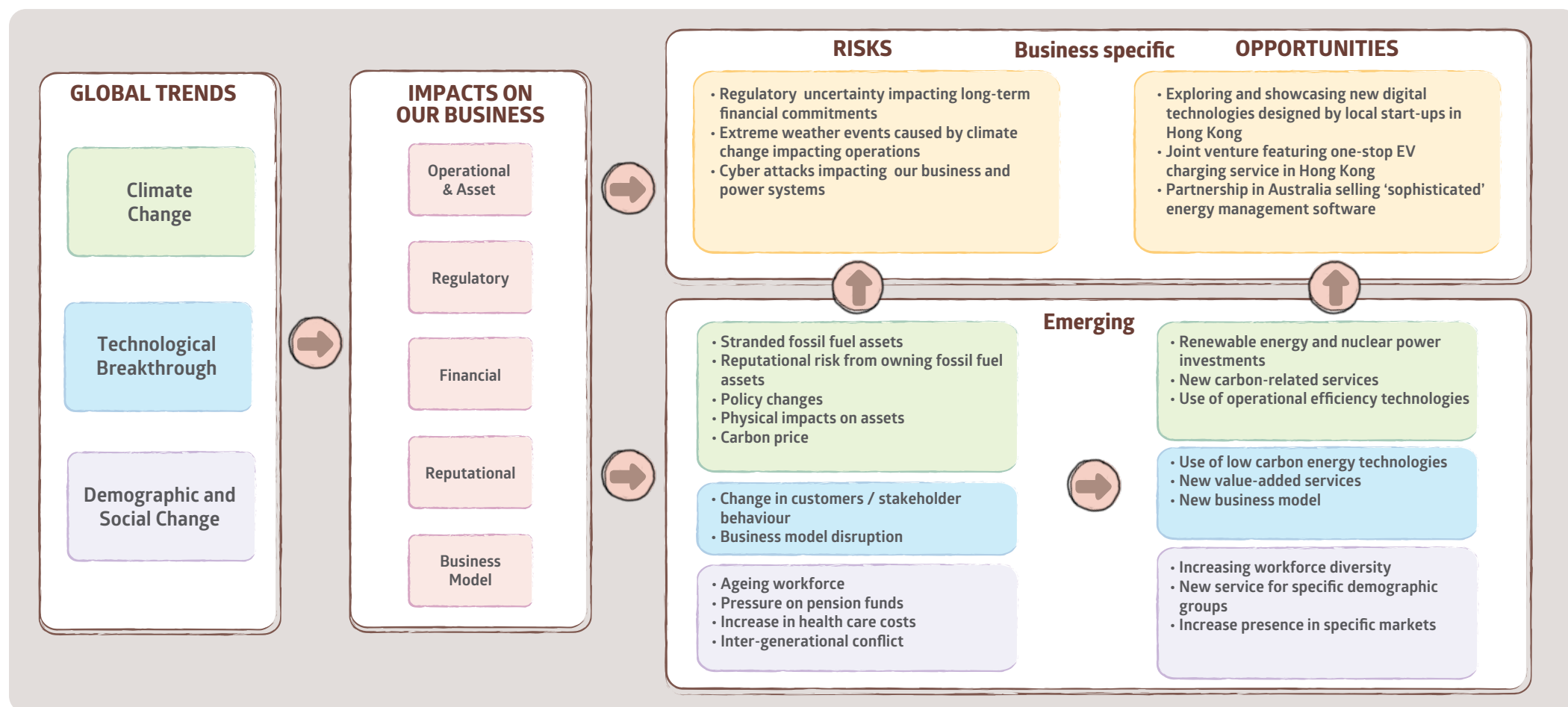
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## GLOBAL TRENDS AND IMPACTS

From the three global trends which we have identified as being most influential to us, guided by our values and commitments, we have identified some potential emerging and business-specific risks and opportunities.





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## EMERGING TRENDS & IMPACTS

Last year we presented the five global trends published by PwC. In 2016, we identified Climate Change, Technological Breakthrough and Demographic and Social Change as three of the five global trends most relevant to CLP.

### Climate Change

We are encouraged to see the Paris agreement on climate change being ratified in record time, as the committed Nationally Determined Contributions (NDCs) provide some medium to long-term signals conducive to attracting the longer term investments needed for infrastructure. However, resolving such a global challenge requires collaboration between industry, government and civil society alike.

To manage this global trend in a progressive but measured way, bearing in mind the importance of ensuring security and reliability of supply, we need to have in place a sustainable mix of conventional and renewable energy sources, regulatory structures that support the transition to a cleaner energy mix, with more efficient use of energy, as well as access to the required financing. While the power industry is ready to do its part, we must also accept that different parts of the world will require different solutions to be implemented at different times. In developing economies, coal will remain a dominant primary energy source for some time.

### Technological Breakthrough

Technology advancements influence not just the technical solutions available, but also the behavior and expectations of customers and other stakeholders. They can also lead to major disruptions of traditional business models, which we are starting to see in utilities around the world.

As mentioned before, advancements in digital technology and its applications, and new entrants coming into our sector are bringing significant changes to our industry. We should no longer think of electricity as the only product we offer our customers. In the future, our business will be about the services and the quality of these services that we provide along with our products to customers.

### Demographic & Social Change

Globally the population continues to grow rapidly, but the impact of this is felt very differently in different countries. While Africa's population is projected to double by 2050; the population in Europe is projected to shrink. Other than population growth, a key demographic trend is ageing societies in developed economies. However, some countries will experience this more than others. For example in Asia Pacific, Vietnam and India have younger demographic profiles than China.

The business opportunity in countries with faster population growth will also be dependent on the speed of economic development, regulatory policy and how the energy transformation impacts these countries. For example, in some developing countries, there is the opportunity to bypass the grid and leapfrog to locally distributed technology as we saw with the telecommunication industry.

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## MANAGING RISKS

**We are committed to continually improving our risk management framework, capabilities and culture across the Group to ensure the long-term growth and sustainability of our business.**

Risk is inherent in CLP's business and the markets in which we operate. We aim to identify risks early on so that they can be understood, managed, mitigated, transferred or avoided. This demands a proactive approach to risk management and an effective Group-wide risk management framework.

CLP's risk management framework comprises four key elements:

1. Risk management philosophy;
2. Risk appetite;
3. Risk governance structure; and
4. Risk management process.

CLP's overall risk management process is overseen by the Board through the Audit Committee. CLP recognises that risk management is the responsibility of everyone within the Group, and hence throughout the company, risk management is integrated into business and decision-making processes including strategy formulation, business development, business planning, capital allocation, investment decisions, internal control and day-to-day operations.

In this light, we have set two-tier objectives.

### CLP's Risk Management Objectives

#### *Strategic*

At a strategic level, CLP focuses on the identification and management of material financial and non-financial risks inherently associated with the pursuit of the Group's strategic and business objectives. In pursuing growth opportunities, CLP aims to optimise risk/return decisions as defined and quantified through diligent and independent review and challenge processes.

#### *Operational*

At an operational level, CLP aims to identify, assess, evaluate and mitigate operational hazards and risks in order to create a safe, healthy, efficient and environmentally-friendly workplace for its employees and contractors while ensuring public safety and health, minimising environmental impact, and securing asset integrity and adequate insurance.

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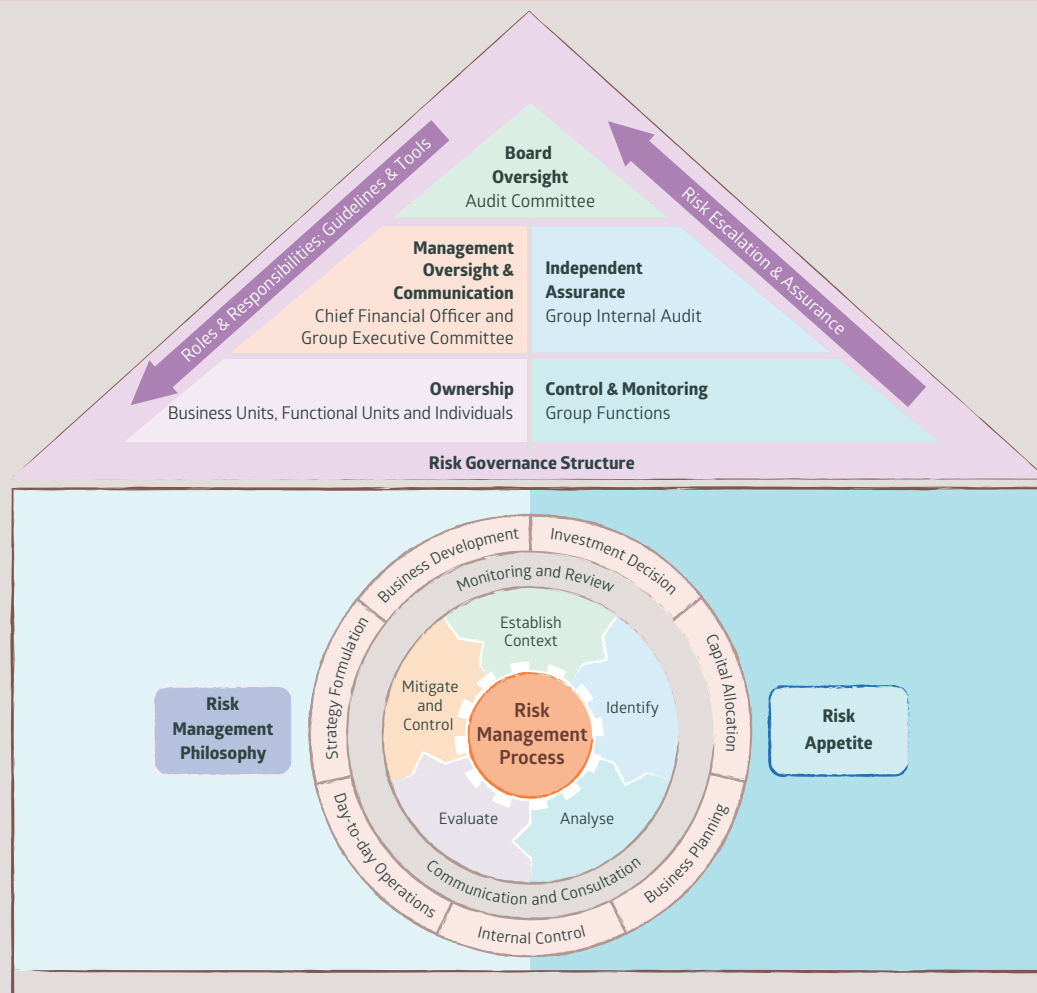
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## CLP's Risk Management Framework



See CLP's Risk Management Framework in our 2016 Annual Report.

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## EMERGING RISKS

As we consider the potential impacts or implications of the global trends on our business, we can identify some potential risks that are applicable to the Group, although the pace and significance of them will vary depending on the jurisdiction.

### Emerging Risks

#### Climate Change

- Potential stranded fossil fuel assets
- Potential reputational risk from owning fossil fuel assets
- Abrupt policy changes that could affect supply security or reliability
- Physical impacts of climate change on our assets and value chain
- Potential carbon price increasing the operating costs for fossil fuel assets

#### Demographic & Social Change

- Ageing workforce creating risks of declining productivity and safety performance
- Pressures on long-term sustainability of pension funds
- Increase in health care costs and sickness absenteeism
- Inter-generational conflict as older workers seek to defer retirement and younger workers seek promotion

#### Technological Breakthrough

- Abrupt changes in customer and/or stakeholder behavior
- Business model disruption
- IT-related risks such as cyber security



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## SPECIFIC BUSINESS RISKS

More details of CLP's top business-specific risks and relevant actions taken in 2016 are presented in this section.

### Risk

#### Climate Change Risk

Climate Change is one of the key emerging risks which may have material impact on the Group over a longer timeframe. As an electricity supplier, CLP is committed to mitigating the impact of our operation on climate change.

On the supply side, we strive to lower the emissions from our power generation by using cleaner fuel and promoting the use of renewable energy.

On the demand side, our efforts focus on the promotion of energy efficiency and conservation (EE&C) through green tools and education programmes.

Extreme weather events as a result of climate change can pose industrial and operational risks to our operations.

Climate change can also cause indirect risks such as regulatory and regulational-related risks which are discussed in the following Regulatory Risk section.

#### Impact to CLP

CLP's operations are exposed to various industrial and operational risks, including extreme weather events as a result of climate change.

While we work to reduce our carbon emissions, we also need to adapt and upgrade our facilities to strengthen our defence against extreme weather events that are becoming more frequent.

#### Actions taken

We manage by:

- Planning and implementing operations and system reinforcements where necessary, in order to maintain high operational and emissions performance; and
- Maintaining emergency response and crisis management plans with regular drills.

For example, in 2016, in Hong Kong we completed the reinforcement project for pylons of 400kV overhead lines and various critical structures at Castle Peak Power Station so that they can better withstand super typhoons. We also installed flood damage mitigation and alarm systems at substations to guard against storm surges.

Looking forward, we plan to develop a model that can more accurately forecast the effect of an approaching typhoon on our network so that we can be better prepared.

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## SPECIFIC BUSINESS RISKS (CON'T)

### Risk

#### Regulatory Risk

CLP operates in a heavily regulated industry and so regulatory risk remains the key challenge for us.

In Hong Kong, the Scheme of Control (SoC) is due to expire in 2018. There are calls to lower the level of the permitted rate of return as well as expectations for more renewable energy and energy efficiency initiatives.

Our Australian business continues to face regulatory uncertainty on numerous fronts, including carbon, renewable energy target, spot market rule changes, regulatory obligations of assets, emissions reduction scheme and retail pricing re-regulation.

The Chinese Government is undertaking power sector reforms with the aim of introducing greater competition. The practical implications of this are still difficult to assess. The Government also regularly intervenes in the market, influencing prices and volumes.

#### Impact to CLP

Regulatory clarity and a reasonable return are our shareholders' most basic considerations when it comes to endorsing long-term investment plans.

An industry as complex as ours and with such long-term commitments needs certainty and predictability so that we can look forward and plan with confidence for the future.

#### Actions taken

We manage by:

- Working constructively with governments to advocate our position on regulatory changes;
- Implementing comprehensive stakeholder engagement plans to facilitate sensible and informed discussion on regulatory matters;
- Mobilising internal resources to ensure timely responses to regulatory changes and maintaining regulatory compliance;
- Communicating and highlighting the importance of a balance between reliable and safe supply, care for the environment and reasonable tariffs; and
- Reinforcing CLP's efforts in caring for the community and promoting energy efficiency.

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## SPECIFIC BUSINESS RISKS (CON'T)

### Risk

#### Cyber Security Risk

Cyber Security is another key emerging risk which is evolving and may have material impact on the Group.

Targeted attack emails or fraud emails against CLP are increasing. Some are related to cyber-criminal fraud, while some could cause infection of CLP's computers.

#### Impact to CLP

Potential impacts of cyber attacks may include: disruption of energy supply via network intrusion; potential theft of sensitive data leading to regulatory breach (e.g. data privacy law) and brand impact; and fraud or abuse of CLP brand incidents resulting in financial and reputation impact.

#### Actions taken

We manage by:

- Raising staff awareness through cyber security programmes;
- Applying different technologies to manage network perimeter defense, data loss, cyber-spoofing, distributed denial of service attack, mobile devices and monitor suspicious cyber activities with regular testing and verification of controls by third parties; and
- Ensuring segregation between CLP's IT network and any asset information systems.

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## CAPTURING OPPORTUNITIES

**We adapt to a changing business environment by identifying, developing and applying emerging technologies and innovative business approaches.**

We are proactively preparing for the emerging opportunities we see presented by the digital revolution. To secure our role in the smart infrastructure of the future, we have set up an innovation team to help build our capability and develop a strategy to manage data on a very large scale, and to create a platform for smart devices to plug into our electricity system. See Emerging Opportunities section for more details.

We have also begun to identify more business-specific opportunities in the markets we operate in. To facilitate our expansion in the local markets, we must adapt to the changes quickly enough to enhance our competitiveness. This involves attracting the right partners and suppliers, increasing access to more favourable lending conditions and further strengthening the trust and confidence of local communities in our brand. Since the markets in which we operate are so diverse, it is most effective to manage these opportunities at the business unit level. See Specific Business Opportunities section for more details.



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## EMERGING OPPORTUNITIES

As we consider the potential impacts or implications of the global trends on our business, we can see some general business opportunities for the Group, although the relevance and significance of them will vary depending on the jurisdiction.

### Emerging Opportunities

#### Climate Change

- Continue to expand our renewable energy portfolio, particularly in solar, where supporting policies and/or a carbon price that makes renewable energy more cost competitive exist
- Deploy new ways to finance and scale up renewables
- Offer a range of carbon reduction advisory services and implementation support to our customers (i.e. energy services, renewable energy installation and carbon offsets)
- Sell renewable energy to customers directly through Power Purchase Agreements (PPAs)
- Invest in nuclear power with a credible and trusted partner that has a proven track record of solid experience in nuclear plant operations
- Provide resilience/adaptation services and expertise to stakeholders along our value chain
- Where fossil fuel assets are still needed to support development in developing countries, deliver assets with the highest efficiency and lowest emitting technologies as is commercially possible

#### Technological Breakthrough

- Deploy new low carbon energy technologies to replace carbon intensive ones both on the supply side and demand side
- Use digital technology to increase the efficiency of our operations
- Use digital technology and data analytics to develop new value-added services for bundling with the energy we provide
- Reposition our role in the value chain as a way to transition into a new business model, depending on the country/market

#### Demographic & Social Change

- Younger generation more interested in studying Science, Technology, Engineering and Mathematics (STEM) subject areas because of the impact of new technology
- Diversify our recruitment sources and increase workforce diversity with a focus on gender
- Provide intelligent energy-related services to specific demographic segment, for example elderly customer group
- Increase our market presence in markets with rapid population and economic growth



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## SPECIFIC BUSINESS OPPORTUNITIES

More details of CLP's top business-specific opportunities and relevant actions taken in 2016 are presented in this section.

### Opportunity

#### Opportunities in Hong Kong

The idea of "smart city" has emerged and cities around the world are building their own version of this concept. As an innovative energy provider, CLP is well-positioned to support Hong Kong's transformation into becoming a smart city.

#### Initiatives

- We recently cooperated with the Hong Kong Science and Technology Parks to explore new digital technologies designed by local start-ups to be showcased in our newly revamped customer service centre. These technologies will enable a more interactive and interesting experience for our customers to learn about the latest energy saving products and smart home solutions. Through this collaboration, CLP aims to act as a catalyst for innovation in Hong Kong.

- In addition, CLP's Smart Charge initiative with HKT is an example of developing a new area for our business. Hong Kong has more than 7,000 electric vehicles; more than many cities in the world. Our joint venture's one-stop charging service provides owners and drivers with the convenience and security they need. In a business sense, Smart Charge recognises the different ways we can grow our business while contributing to Hong Kong as a smart city.

See Smart Charge in Intellectual Capital in this report.



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## SPECIFIC BUSINESS OPPORTUNITIES (CON'T)

### Opportunity

#### OPPORTUNITIES IN AUSTRALIA

EnergyAustralia established a “NextGen” business unit in 2015 to identify and develop innovative products and solutions to meet the current and future needs of customers. NextGen has a particular focus on technology that allows customers to manage their energy consumption in ways that help them save money and reduce their impact on the environment.

#### Initiatives

- In October 2016, EnergyAustralia committed to invest A\$9 million in an Australian business, Redback Technologies. Redback's flagship product is a Smart Hybrid Solar Inverter System, combining a smart solar inverter, battery enclosure and sophisticated energy management software into one package. The technology will allow customers to decide how they use, save and even sell energy captured from their roof-top solar panels, all managed from a smartphone. The EnergyAustralia / Redback partnership plans to roll-out the second generation of this technology in the first half of 2017.



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### CLIMATE CHANGE

We are glad to see that the Paris agreement on climate change has been ratified. However, the power industry alone cannot meet the agreed climate change mitigation targets. We need government, civil society and business to work together so that these three key elements can be put in place: a sustainable set of regulatory structures that facilitate the transition to a cleaner energy mix; financing mechanisms to support that change; and conventional and renewable energy sources that are reliable and affordable.

While the power industry is ready to roll up its sleeves and do its part, we must be cognisant of the different needs in different parts of the world. In developing economies, where energy demand is still growing, coal will remain a key energy source for some time. Meanwhile in developed economies, where supply may

outstrip demand, there is a more immediate opportunity to transition to a low carbon energy future. Hence, different countries will require different solutions at different times. For our part, CLP is committed to supporting the different choices made by the governments of the communities where we operate and to deliver the cleanest solutions based on the choices those countries make.

We will begin the review of our “Climate Vision 2050” in 2017, ahead of our original schedule, in the hope that it can remain a solid foundation for CLP to meet the objectives set out in the Paris Agreement.

We look forward to continued and active involvement with governments, businesses and communities to help formulate the policies and regulations required to facilitate this energy transition.



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MANAGING RISKS

CAPTURING  
OPPORTUNITIES

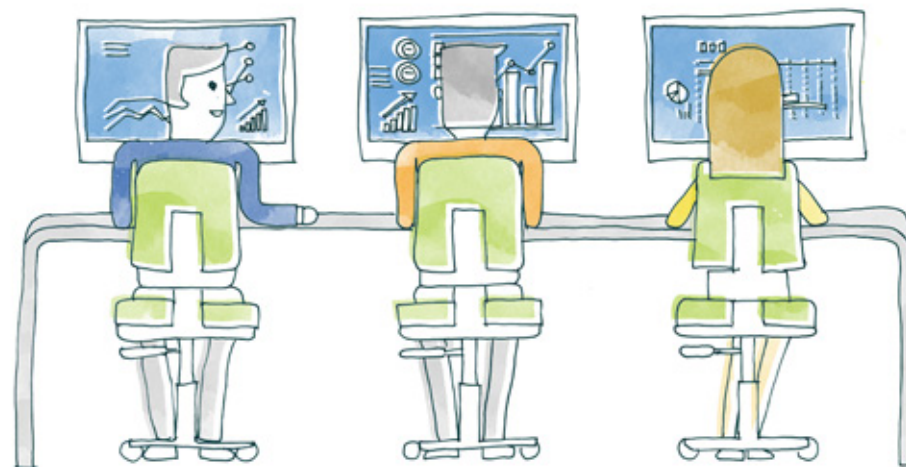
TOWARDS A  
BRIGHTER  
TOMORROW

## DIGITALISATION

Our business in the next five to ten years may be very different to what it is today. To be part of the smart infrastructure in the city, we are starting to build our capability and to develop a strategy to manage data on a very large scale. We are also exploring the development of a platform for smart devices to plug into the electricity system on our grid and right across our business.

We have already set up an innovation team to work on these areas and we have made some progress. Our focus is twofold. First is to leverage all these technologies and information to get better at what we do. For instance, we are looking across all our assets and examining how digital technology platforms can help optimise the performance of our generation fleet. The other focus is developing new areas for our business. An example of this is the Smart Charge initiative with HKT (mentioned in the Specific Business Opportunities section).

In Australia, to identify and develop more innovative products and services and help customer retention amid the intense competition, EnergyAustralia established a new “NextGen” business unit in 2015. In 2016, EnergyAustralia teamed up with Redback Technologies to promote to our customers the smart hybrid solar inverter system (mentioned in the Specific Business Opportunities section). EnergyAustralia will continue to examine potential opportunities in a range of areas including battery storage, smart home technologies and embedded networks that are capable of thriving as the energy sector evolves.



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## TOWARDS A CUSTOMER-CENTRIC UTILITY OF THE FUTURE

The electricity industry is undergoing a period of transition. Enabled by technologies, regulatory advancement and customer empowerment, the new interaction between utilities and customers, and amongst customers themselves, will have to be developed and integrated as we evolve to become a utility of the future.

In this new era, utilities can no longer succeed by simply fulfilling their traditional roles

in managing the power system in a safe, economic and reliable manner. Increasingly, power companies such as ours must also learn to put innovation and technology to work for us in order to meet the evolving demands of our customers.

We also have an important role to play in helping governments and the general public adopt technological advancements in a way that balances regulation, economics, environment and social concerns. CLP will continue to pursue ventures that turn new ideas into reality and rely on that knowledge and experience to achieve a sustainable future for the communities in which we operate.





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## MOST MATERIAL TOPICS

OUR STRATEGY AND  
VALUE FRAMEWORK

OUR  
SUSTAINABILITY  
PRINCIPLES

OUR CLIMATE  
VISION 2050

SUSTAINABILITY  
GOVERNANCE

CORPORATE  
GOVERNANCE

CODE OF  
CONDUCT

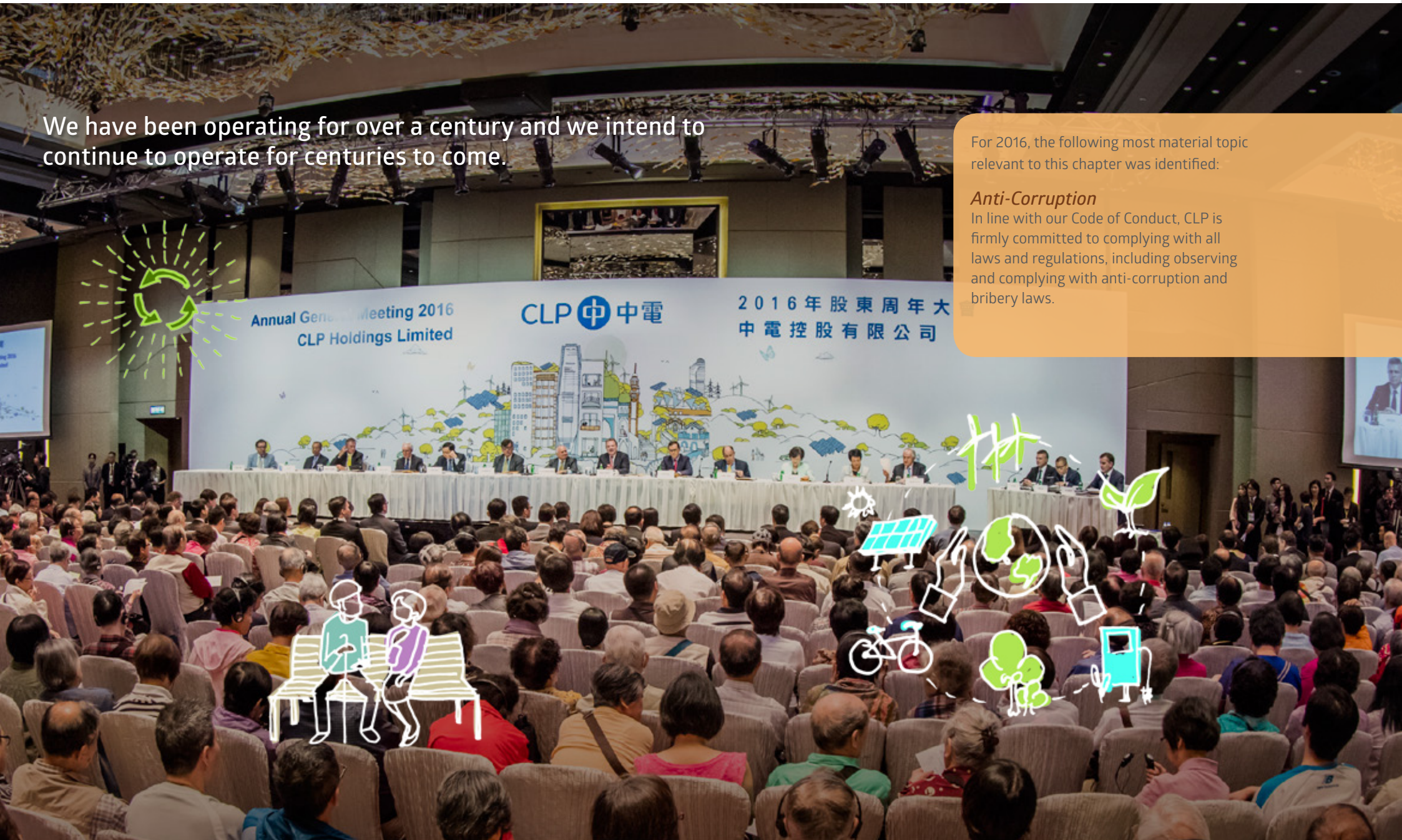
LEGAL  
COMPLIANCE

We have been operating for over a century and we intend to continue to operate for centuries to come.

For 2016, the following most material topic relevant to this chapter was identified:

### Anti-Corruption

In line with our Code of Conduct, CLP is firmly committed to complying with all laws and regulations, including observing and complying with anti-corruption and bribery laws.



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## OUR STRATEGY AND VALUE FRAMEWORK

**Our strategy for embedding sustainability starts with upholding our Values and Principles and entails integrating sustainability goals into our existing business strategy and operations.**

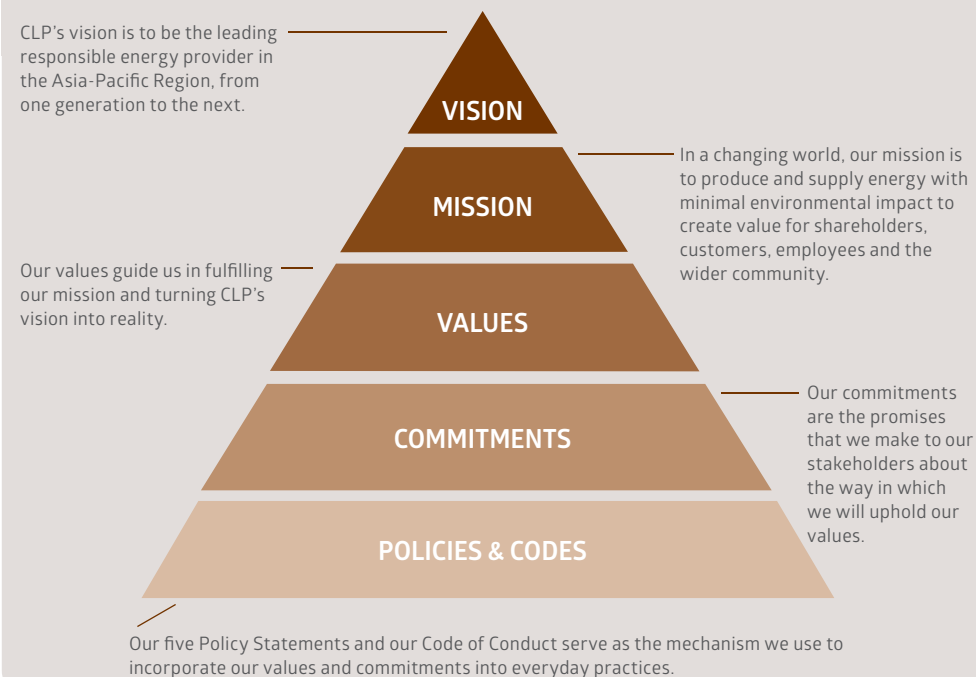
Our Value Framework reflects the moral compass of the company, articulating not only our values, but also our vision, mission and commitments to our key stakeholders. CLP's vision is to be the leading responsible energy provider in the Asia-Pacific region, from one generation to the next. Our mission is to produce and supply energy with minimal environmental impact to create value for shareholders, customers, employees and the wider community, in the context of a changing world. These, together with our unwavering values and commitments made to our key stakeholders, are core to why sustainability

is at the heart of our business, which involves long-term investments and assets that we expect to operate over many decades. We believe conducting our business in a socially and environmentally responsible way is not just an ethical obligation, but it is good for a sustainable business.

📶 See CLP's Value Framework.

📶 See CLP's Code of Conduct.

### Our Value Framework





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## OUR SUSTAINABILITY PRINCIPLES

Having principles that reflect our values, guides us in our mission to produce and supply energy with minimal environmental impact to create value for shareholders, customers, employees and the wider community.

In 2015, inspired by the United Nations Sustainable Development Goals (SDGs) for 2030, we developed a set of Sustainability Principles, which set the foundation for supporting these development priorities within our longer term business strategy. Our Sustainability Principles are organised under four focus areas: Economic Sustainability, Our People, Our Environment and Our Community.

See Sustainability Principles on the next page.

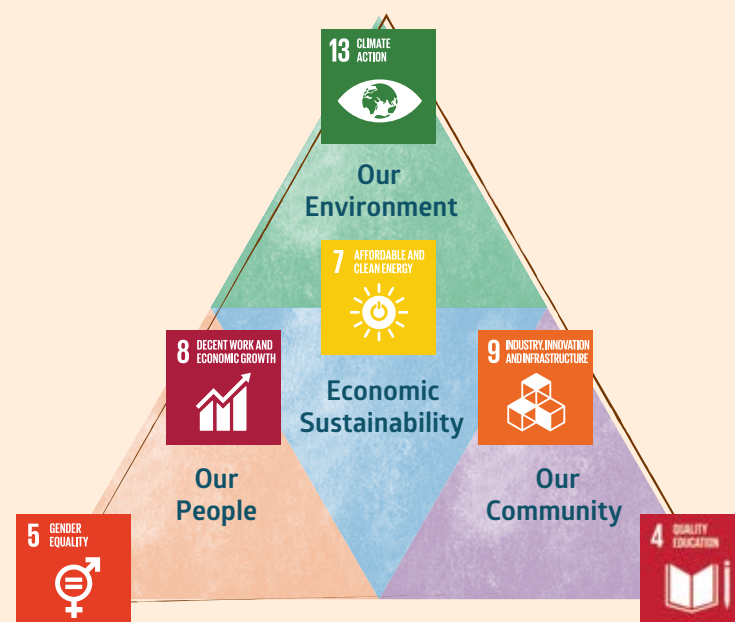
These Sustainability Principles are consistent with our Value Framework as well as other sustainability disclosure requirements, and encompasses all the sustainability-related areas that we are working on every day.

Since our Sustainability Principles touch on all 17 SDGs, in 2016, we prioritised six SDGs that were most relevant to CLP:

- SDG 13 – Climate Action
- SDG 9 – Industry, Innovation & Infrastructure
- SDG 8 – Decent Work & Economic Growth
- SDG 7 – Affordable & Clean Energy
- SDG 5 – Gender Equality
- SDG 4 – Quality Education

We have begun discussions on potential metrics with the aim of delivering a set of SDG-relevant Sustainability Goals by 2018.

CLP's Priorities and some relevant SDGs mapped on to our Sustainability Focus Areas:



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## Sustainability Principles Under Four Focus Areas

### Economic Sustainability

1. We create long-term value for our shareholders through focussed investments in assets across the energy value chain.
2. We pursue excellence in the operations of those assets and endeavour to deliver world-class energy products and services which meet or exceed the expectations of our customers in balance with all other stakeholders.
3. We provide products and services that are valuable and often essential to the communities we serve, and we commit to delivering them safely, reliably, efficiently, cost effectively and in an environmentally responsible manner.
4. We communicate openly and transparently with our stakeholders on our investments and operations, as well as our financial, environmental, social and governance performance.
5. We proactively adapt to the changing business environment and the changing needs of our customers and other stakeholders by innovating and adopting efficient and value enhancing technologies, processes, practices and new business model approaches in a timely and considered manner.
6. We adhere to the laws of all jurisdictions we operate in and seek to bring international best practice principles of ethics, governance, public communication, transparency and sustainability to all our operations.

### Our Environment

1. We will reduce our carbon emissions in line with an agreed global level at which catastrophic climate change can be avoided.
2. We will adopt international best practice for our environmental impact assessments and environmental performance standards for construction of all new plants, as is commercially viable and move towards zero emissions over time.
3. We will use resources, including fuel, water and other natural resources, efficiently and conservatively and will increase the use of renewable energy resources.
4. We will responsibly manage land use-related issues arising from our transition to a low carbon energy future, including biodiversity, in line with the local, national and regional circumstances.
5. We will monitor and manage emerging environmental-related challenges that will arise as technologies, stakeholder expectations and business model approaches change.

### Our People

1. We ensure a safe and healthy working environment and are committed to preventing accidents, injuries and physical or mental illness related to work.
2. We ensure compliance with all employment related legal requirements and contractual agreements in the countries that we operate in, respect for internationally recognised human rights, and best practice governance and disclosure of executive remuneration.
3. We recruit staff from diverse sources and backgrounds. We encourage retention by ensuring equal opportunity, and by maintaining a harassment and discrimination free work-place that promotes gender balance and supports the social and economic empowerment of women.
4. We maintain our core competencies through the planned intake of trainees and continuous investment in training and development. We build new capabilities in order to stay aligned with changes in our business environment.
5. We provide competitive, fair and equitable remuneration and benefits. We help our employees to maintain their work-life balance with family-friendly policies, reasonable working hours, and a generous range of leave entitlements.
6. Maintaining our organisational productivity enables us to sustain a competitive remuneration and benefits policy. Gains in productivity allow us to increase, progressively and equitably, the returns to our stakeholders.

### Our Community

1. We care for the health, safety and development of the communities in which we operate.
2. We strive to create positive impacts for the society with and for our stakeholders by supporting initiatives that serve the needs and improve the quality of life of the socioeconomically disadvantaged, alleviate poverty, promote diversity and foster social harmony in the communities we serve.
3. We believe in investing in education and development to equip communities and future leaders with the knowledge and skills necessary to tackle complex challenges in the sustainable production and consumption of energy.
4. We support training and skills development initiatives that enhance knowledge in energy and environment to help our communities make informed choices based on a holistic understanding of the energy sector.
5. We support initiatives that contribute to the development and appreciation of history, arts and culture to improve our quality of life and encourage innovation and creative thinking.

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## OUR CLIMATE VISION 2050

**We were amongst the first power utilities in the world to commit to a carbon reduction pathway.**

Back in 2007, we set ourselves a long-term carbon intensity reduction target based on where the science indicated we needed to be by 2050, which may seem very challenging today, but which we hope will be possible over time.

Our climate change journey began back in 2004, when we published our first renewable energy target of 5% by 2010 in “Our Manifesto on Air Quality and Climate Change”.

In 2007, we set a carbon intensity reduction target of around 75% by 2050 compared to 2007 levels (based on the scenarios presented in the Energy Technology Perspectives 2006 publication from the International Energy Association (IEA)). This target became the cornerstone of our Climate Vision 2050, and is supported by a series of interim carbon emissions intensity targets in 2010, 2020, and 2035.

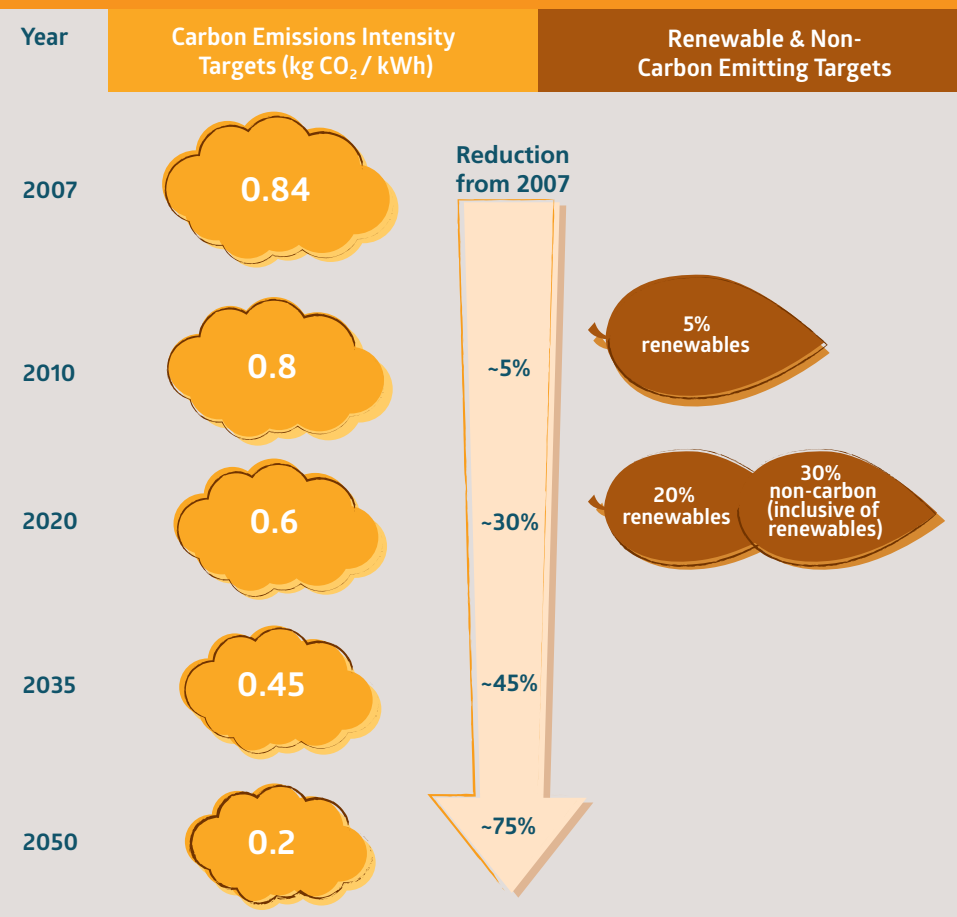
In 2010, our Climate Vision 2050 was updated and the 2020 carbon intensity target was

tightened from 0.7kg CO<sub>2</sub> / kWh (about 15% reduction from 2007 level) to 0.6kg CO<sub>2</sub> / kWh (about 30% reduction from 2007 level). We also developed a new renewable energy target of 20% and a non-carbon emitting (includes nuclear) target of 30% target both for 2020, as the 2010 renewable target of 5% was successfully met.

We had previously committed to reviewing our Climate Vision 2050 roadmap in 2018, after the Intergovernmental Panel on Climate Change releases its new 1.5°C emissions scenario projections. Given the positive momentum created by the successful ratification of the Paris Agreement on climate change, as well as one of the Financial Stability Board’s Recommendations of the Task Force on Climate-related Financial Disclosures being the use of 2°C scenario analyses, we believe it is appropriate to start the review a year earlier in 2017.

For our 2016 performance towards these targets, see Natural Capital chapter.

### CLP's Climate Vision 2050





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## SUSTAINABILITY GOVERNANCE


**As sustainability rises on the corporate agenda, appropriate governance will be key to ensuring that the relevant emerging risks and opportunities are being managed.**

We have integrated sustainability-related governance into our existing corporate governance structure from the Board level down to the operational business unit level, so that we can ensure more integrated oversight of financial and non-financial aspects throughout the Group.

### Board

The highest governance body is the CLP Board. The Board discharges some of its responsibilities through delegation to six Board level Committees: Nomination Committee, Audit Committee, Finance & General Committee, Human Resources & Remuneration Committee, Provident & Retirement Fund Committee and Sustainability Committee. Although all Board Committees are involved with economic, environmental and social aspects in some way, the Sustainability Committee and the

Audit Committee are the two Board level committees that are predominantly involved in sustainability-related matters.

 See details on the Board and all the Board Committees in our Annual Report.

### Senior Management

The CEO, who is a member of the CLP Board and is the Chair of the Sustainability Committee, has executive level responsibility for economic, environmental and social-related matters. The General Representation Letter in connection to the assurance of our selected ESG data is jointly signed off by our CEO and CFO.

In 2016, the Sustainability Executive Committee was established with CLP Group's C-suite executives as members, coordinated by Director – Group Sustainability to discuss, shape and steer the sustainability agenda and

relevant deliverables. The regular Sustainability Executive Committee meetings provide the opportunity for more in-depth discussion on new emerging issues and the shaping of new sustainability-related strategies.

The Group Sustainability Department (GSD) reports to the Chief Corporate Development Officer (CCDO) who reports to the CEO. GSD is responsible for driving sustainability-related issues throughout the organisation from Senior Management up to the Board level, as well as to the Group functions and employees at the business unit level. It also supports the implementation of sustainability-related strategies, policies and initiatives to ensure they are successfully delivered.

In addition to integrating sustainability into our existing business processes and systems, from informing our business strategy development and planning processes, to improving our operational performance and corporate reporting, the team also supports the incubation of new capabilities and innovation across the Group.

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## CORPORATE GOVERNANCE

Corporate governance is, above all, a matter of culture – a conscious decision to do the right thing as a company.

### GOVERNING FRAMEWORK

CLP's corporate governance policies and practices contribute to the high standard of corporate governance that we have achieved over the years, and include:

- the CLP Code on Corporate Governance (the CLP Code);
- our well established and documented Corporate Governance Framework; and
- a corporate culture of good governance.

### THE CLP CODE: COMPLIANCE AND MORE

The CLP Code is our own unique code on corporate governance (available on our website or from the Company Secretary on request). Our Code incorporates and goes beyond the principles of good corporate governance, and the two levels of recommendations in The Corporate

Governance Code and Corporate Governance Report of the Hong Kong Stock Exchange (the Stock Exchange Code). The only exception to this, however, concerns quarterly reporting.

Throughout the year, the Company met the Code Provisions as set out in the Stock Exchange Code. CLP has also applied all the principles in the Stock Exchange Code.

See more information in the CLP Code including an explanation of the Stock Exchange Code in the Corporate Governance Report in our 2016 Annual Report.

### CORPORATE GOVERNANCE FRAMEWORK

The CLP Corporate Governance Framework identifies all the key participants in the responsible governance of the CLP Group, the ways in which they relate to each other and the contribution each makes to the application of effective governance policies and processes.

To achieve the goal of good governance, we are committed to:

- disclosing of our corporate governance principles and practices openly and fully; and
- continuously improving our principles and practices considering our experience, regulatory requirements, international developments and investor expectations.

### CULTURE

The culture of good corporate governance has been set by our Board under the leadership of our Chairman. This culture of honesty and integrity, and to “do the right thing” as a company, is reflected in our policies such as our Value Framework and Code of Conduct and recognised in the CLP Code.

In fact, one of the key strengths of the Board identified in the external board performance evaluation conducted in 2016, is a board culture of high integrity. It reflects both the Chairman's values and the calibre of our Board members. From our Shareholders' Visit Programme and Annual General Meeting (AGM), our shareholders have consistently demonstrated their respect for, and support of, our Chairman's leadership.



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## CLP Board

Our Board plays more than a key role in our Corporate Governance Framework. Under the leadership of our Chairman, the Board cultivates good governance as the cornerstone of our corporate culture. To achieve this, the Board actively promotes the success of the Group by directing and supervising its affairs in a responsible and effective manner.

Some of the key responsibilities of the Board include:

- setting the Group's values and standards;
- establishing and maintaining the strategic direction and objectives of the Group;
- overseeing the management of CLP's relationships with stakeholders, such as Government, customers, communities, and others who have a legitimate interest in the responsible conduct of the Group's business;
- monitoring the performance of management;
- ensuring that a framework of prudent and effective controls is in place to enable risks to be assessed and managed; and

- ensuring the financial statements are prepared to give a true and fair view of the state of affairs of the Group.

## CLP Board Members

The key features of the CLP Board are:

- it is a diversified Board of 14 Directors with three female Directors and the Independent Non-executive Directors representing half of the Board;
- it includes seven influential and active Independent Non-executive Directors to whom shareholders' concerns can be conveyed;
- the non-executive members of the Board bring a wide range of business and financial experience to the Board;
- the posts of Chairman and CEO are separately held by The Hon Sir Michael Kadoorie and Mr Richard Lancaster, respectively; and
- the Board has a culture of high integrity – reflecting the Chairman's values.

## CLP Board Committees

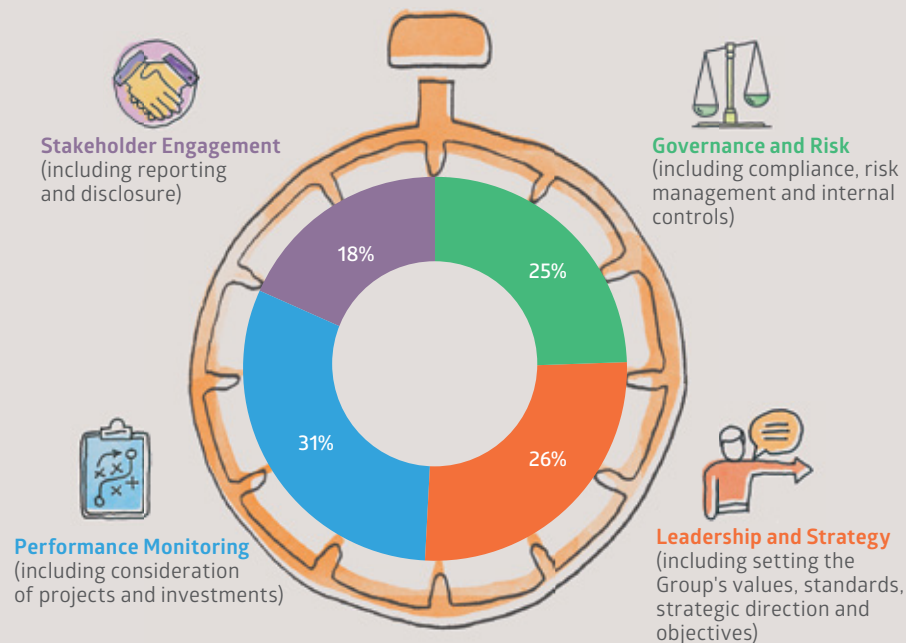
As mentioned earlier, the Board discharges some of its responsibilities through delegation to the respective Board Committees and the two Board Committees most involved in sustainability-

related matters are the Sustainability Committee and the Audit Committee.

See details of each Board member and the Board Committees in our Annual Report.

## How the Board Spent its Time for the 2016 Board Meetings\*

How the Board spent its time at 2016 Board meetings can also be broken down into four main categories:



\* In determining the estimated time spent, we took into account the time discussing the relevant agenda items and the volume of supporting board papers.

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## Sustainability Committee

The objectives of CLP's Sustainability Committee are to oversee management and advise the Board on matters required to enable:

- a) the CLP Group to operate on a sustainable basis for the benefit of current and future generations;
- b) sustainable growth by maintaining and enhancing CLP Group's economic, environmental, human, technological and social capital in the long term; and
- c) the effective management of CLP Group's sustainability risks.

### Chairman

- Mr Richard Lancaster (Chief Executive Officer)

### Members

- Mr Nicholas C. Allen (Independent Non-executive Director)
- Mrs Fanny Law (Independent Non-executive Director)
- Ms Irene Lee (Independent Non-executive Director)
- Mr Andrew Brandler (Non-executive Director)

- Ms Quince Chong (Chief Corporate Development Officer)

The Committee's primary responsibilities include:

- reviewing, endorsing and reporting to the Board on CLP's sustainability frameworks, standards, priorities and goals and overseeing CLP group-level strategies, policies and practices on sustainability matters to attain those standards and goals;
- reviewing and reporting to relevant Board Committees on key international sustainability trends, benchmarking against peers, sustainability risks and opportunities and other emerging issues;
- overseeing, reviewing and evaluating CLP Group's sustainability performance in terms of internationally-recognised metrics relevant to the industry, as well as the requirements of sustainability stock indices and the desirability of CLP's inclusion in those indices;
- reviewing and advising the Board on CLP's public reporting with regard to its performance on sustainability matters; and

- overseeing CLP's community, charitable and environmental partnerships, strategies and related group-level policies and making recommendations to the Board on any changes to those partnerships, strategies and policies

## MANAGEMENT APPROACH TO SUSTAINABILITY GOVERNANCE

Our management approach for many of the financial, social, environmental and governance-related aspects of our business follows a hierarchy of codes and policies, systems, standards and guidelines. Our Code on Corporate Governance, as well as our Code of Conduct and Group Policy Statements, contained in CLP's Value Framework, set out the common principles that must be adhered to across the Group.

The Codes and Policy Statements are in turn supported by more specific policies that may be required either at the Group level, or at the business unit level to meet local regulatory requirements or local stakeholder expectations. In order to deliver on these policies, we have a combination of systems and standards, supported by procedures and manuals, which are internal mandatory requirements.

We also have a number of standard practices and guidelines which provide either: more details for system or standard implementation; or voluntary guidance on managing emerging issues and risks, which we believe are likely to arise within the next few years. The latter objective is part of how we address the concept of 'precautionary approach', particularly for environmental aspects.

In terms of reinforcing environmental, social and governance-related responsibilities, all staff who sign the annual General Representation Letter bear responsibility for the 'Reliability and Disclosure Controls of Financial and Relevant Non-financial Information', as well as the identification and assessment of reputational risks amongst other risks.

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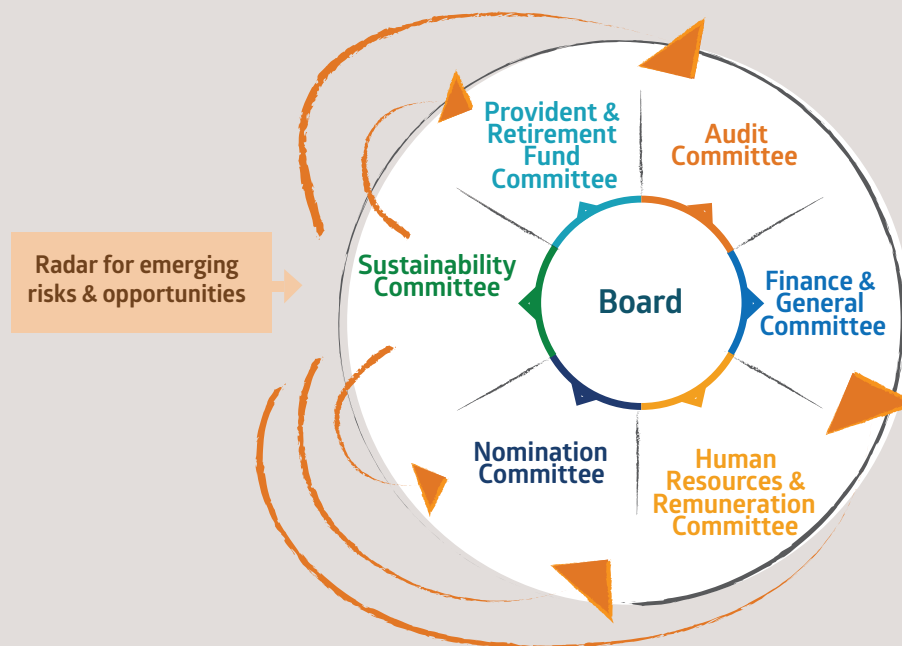
  

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The Sustainability Committee met three times in 2016. Some of the work performed during this period included: endorsing the 2015 Sustainability Report in its February 2016 meeting; deliberating on the UN Sustainable Development Goals (SDGs) with a view to exploring how some of them could be incorporated into potential medium or longer term sustainability goals; and reviewing updates on climate change-related developments such as the global trends in terms of political and government actions on climate change issues and the growing focus of certain investor groups on companies with carbon exposure and the implications for CLP.

See a full report on the Sustainability Committee's activities for 2016 in the Appendix.

## Role of the Sustainability Committee





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## Audit Committee

The Audit Committee is responsible for reviewing and making sure that the assurance of the sustainability data in the Sustainability Report is appropriate. The assurance of our ESG data is currently conducted by our financial auditor and the results presented to Senior Management and Board through the Audit Committee.


The Committee's primary responsibilities are to:

- assure that adequate risk management and internal control systems are in place and followed;
- assure that appropriate accounting principles and reporting practices are followed;
- review, and to make sure that the assurance of the sustainability data in the Sustainability Report is appropriate;
- satisfy itself that the scope and direction of external and internal auditing are adequate;
- satisfy itself that good accounting, audit principles, risk management, internal controls and ethical practices are applied on a consistent basis throughout the CLP Group

(without limiting the responsibilities of the boards of CLP subsidiaries); and

- perform the corporate governance duties described further in this Report and fulfil the functions conferred on the Committee by the CLP Code.

The Audit Committee met six times in 2016. It reviewed the findings of the independent assurance of the 2015 ESG data in its February 2016 meeting.

 See a full report on the Audit Committee's activities for 2016 in our 2016 Annual Report.

## Disclosure of Conflict of Interest and Independence of Directors

Directors are requested to declare their and their connected entities' direct or indirect interests, if any, in any proposals or transactions to be considered by the Board at Board meetings and withdraw from the meetings as appropriate. In 2016, none of the Directors were required to withdraw from meeting in these circumstances.

The Company follows guidelines at each financial reporting period to obtain confirmation from Directors in respect of any

transactions of the Company or its subsidiaries which are related to Directors or their connected entities.

In addition, identified significant related party transactions are disclosed in the Financial Statements of the Annual Report.

As required under the Listing Rules, the Company received written confirmations from all of the Independent Non-executive Directors regarding their independence. The Company considers all of the Independent Non-executive Directors to be independent.

## Directors' Shareholding Interests

Directors' interests in CLP's securities as at 31 December 2016 are disclosed in the Directors' Report of the Annual Report. All Directors have confirmed, following specific enquiry by the Company, that throughout the year ended 31 December 2016 they have complied with the required standard set out in the Model Code and our own Code for Securities Transactions. CLP's own Code for Securities Transactions is largely based on the Model Code set out in Appendix 10 of the Listing Rules and is on terms no less exacting than those in the Model Code.

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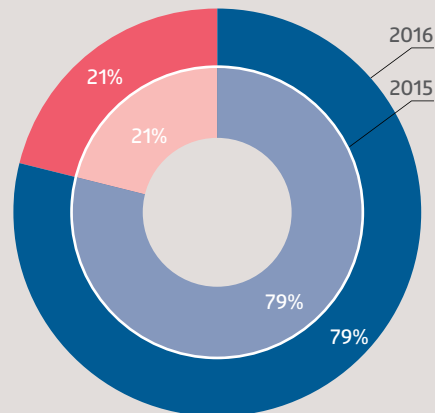
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## Diversity

In 2016, we assessed the diversity of the Board based on aspects of independence, gender, nationality and ethnicity, skills and experience (the measureable objectives set out in the Board Diversity Policy) as well as the age and length of service on the Board.

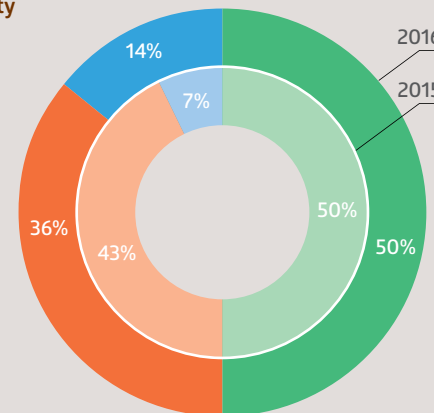
### Board Composition and Diversity

#### Gender



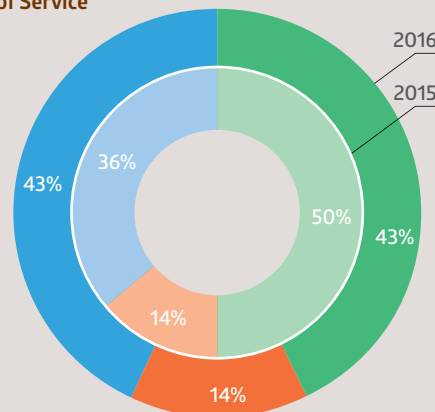
● Male ● Female

#### Capacity



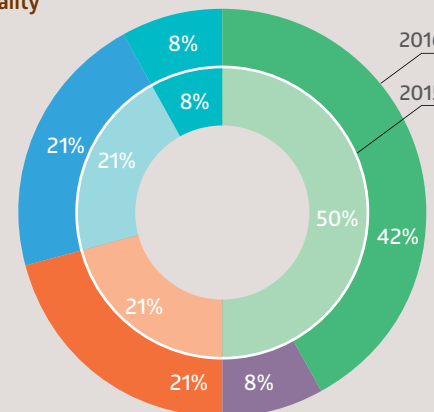
● Independent Non-executive Directors ● Non-executive Directors ● Executive Directors

#### Length of Service



● 1-5 years ● 6-10 years ● Over 10 years

#### Nationality



● British ● Australian ● Chinese ● Indian ● Belgian






Note: Nationality is based on passport, and does not necessarily reflect ethnic origin.

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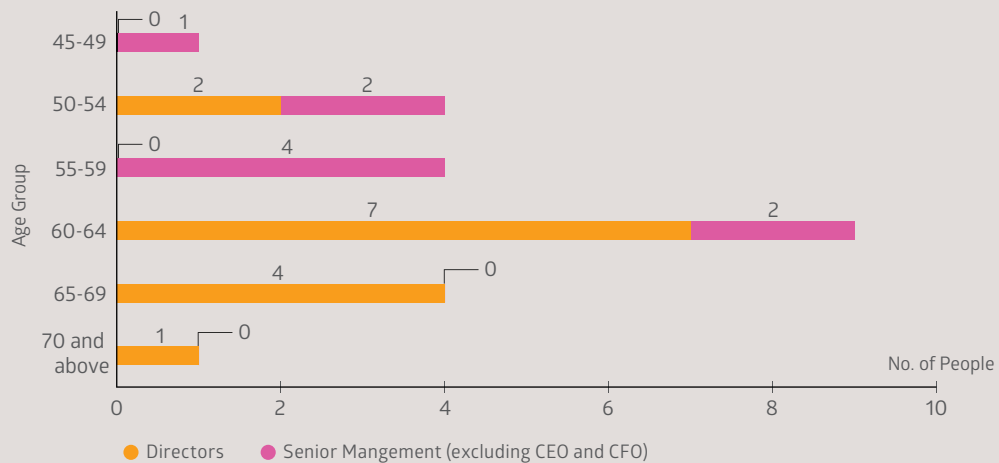
## Professional Background and Experience

<b>Business</b>	<b>33%</b>		(2015: 33%)
<b>Accounting</b>	<b>22%</b>		(2015: 28%)
<b>Legal</b>	<b>17%</b>		(2015: 17%)
<b>Engineering</b>	<b>22%</b>		(2015: 17%)
<b>Public Administration</b>	<b>6%</b>		(2015: 5%)

Note: Directors could have multiple professional background and experience.



## Age Group of Directors and Senior Management



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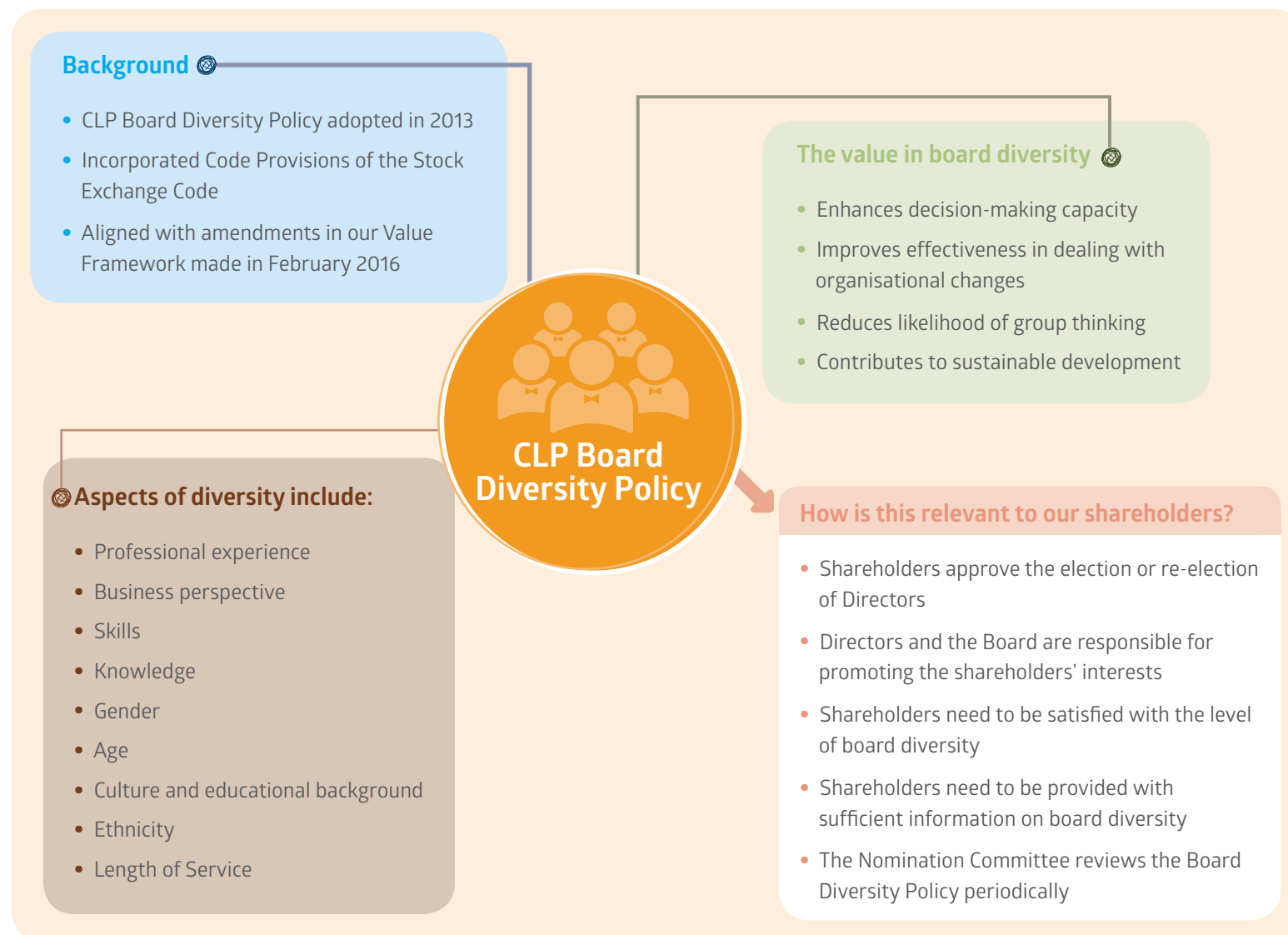
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The results of the Board diversity assessment revealed that:

- the percentage of the Independent Non-executive Directors was maintained at the same high level of 50%;
- gender diversity (female representation) remained at a relatively high level of 21.43% compared with other Hong Kong listed companies;
- there was an increase in the representation of Executive Directors;
- we experienced an increase in diversity in terms of nationality and length of service (following the Director changes in 2016); and
- the overall diversity of the Board was enhanced during the review period.

We also sought shareholders' views on the diversity of the Board during the Shareholders' Visit Programme in 2015-2016. The overall results showed that the shareholders' satisfaction levels with aspects of Board diversity increased to 97.4% - 98.0% in 2015-2016. The 2016 review of the Board Diversity Policy was endorsed by the Nomination Committee.

The diagram below illustrates the key features of CLP Board Diversity Policy.



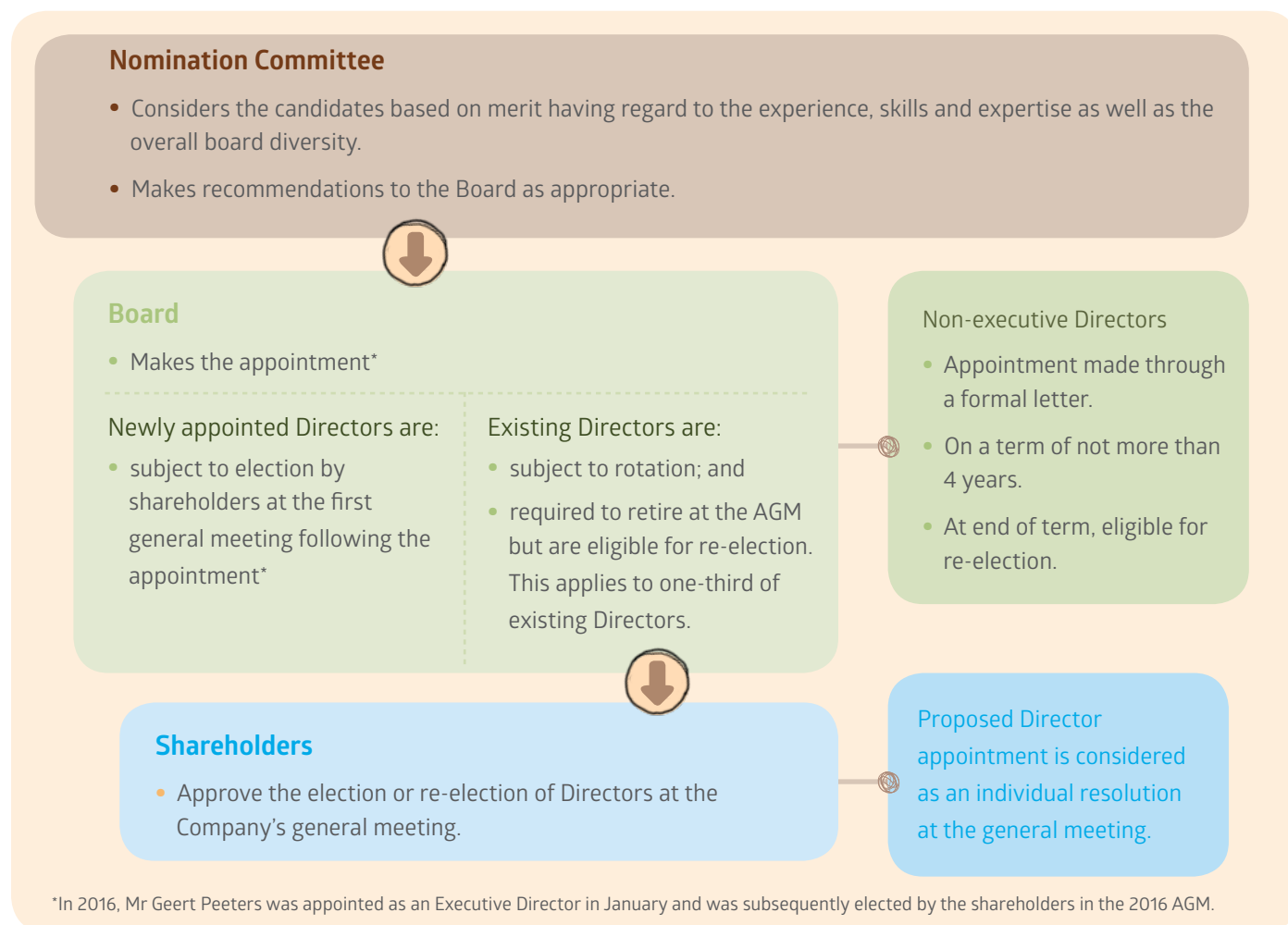
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## CLP's Process for Appointing a Director

The diagram below presents the system used by CLP to appoint our Directors.





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## Training

Our Directors Development Programme includes:

- reading regulatory and industry related updates;
- meeting with local management and stakeholders, including hosting shareholders' visits (2015-2016 Shareholders' Visit Programme) and visiting CLP's facilities and special projects with CLP's involvement; and
- attending expert briefings/seminars/conferences relevant to the business or directors' duties. Directors have access to Chatham House (a leading independent policy institute based in London) publications and the opportunity to attend Chatham House events on topics relevant to our business.

The Board is regularly kept up-to-date on key events, outlook, safety and environmental matters of the Group through the CLP Group Monthly Management Reports. The Management Report gives a balanced and understandable assessment of the Company's

performance, position and prospects in sufficient detail and includes year-to-date financials as well.

## Board Evaluation

In 2016, an independent evaluation of the Board and the Committees was carried out. In line with our CLP Code, we undertake a performance evaluation of our Board and Committees on an ongoing basis; the last independent evaluation was in 2012 and for the intervening years, the evaluations were conducted internally.

The 2016 evaluation was conducted by Heidrick & Struggles, an independent external consultant, that was appointed following a competitive tendering process.

The evaluation process involved a series of one-on-one structured conversations with each of the Directors and selected members of the Senior Management and focused on the Board's effectiveness and future readiness. The evaluation confirmed the effectiveness of the Board and its Committees.

The consultants also identified a number of signature strengths of the Board and its Committees, which include:

- the Board plays an important corporate governance role and effectively oversees and contributes to CLP's core businesses;
- the Board and management have a highly transparent and collaborative partnership;
- the Board and its Committees are run efficiently; and
- the Board has a culture of high integrity reflecting the Chairman's values.

Looking ahead, recommendations were made by Heidrick & Struggles with a view to enhancing the effectiveness of the Board to ensure that it would be able to focus more on issues that could have an impact on CLP's future success. Over the course of this coming year, management will put forward these issues to the Board for review and implementation as appropriate.

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A key recommendation was the greater use of external consultants who can contribute to some of the critical issues facing CLP and provide expert assistance to the Board and its Committees.

## Remuneration

The main elements of CLP's remuneration policy have been in place for a number of years and are incorporated in the CLP Code:

- No individual or any of his or her close associates should determine his or her own remuneration.
- Remuneration should be broadly aligned with companies with whom CLP competes for human resources.
- Remuneration should reflect performance, complexity and responsibility with a view to attracting, motivating and retaining high performing individuals and promoting the enhancement of the value of the Company to its shareholders.

The above policies apply to the remuneration of the Non-executive Directors, with appropriate adjustments to reflect good corporate governance practices, the particular nature of their duties and that they are not employees of the Company. In considering the level of remuneration payable to Non-executive Directors, we have referred to:

- Report of the Committee on the Financial Aspects of Corporate Governance of December 1992;
- "Review of the Role and Effectiveness of Non-executive Directors" of January 2003 as subsequently codified in the Financial Reporting Council's "The UK Corporate Governance Code" published in September 2014 (2014 UK Code); and
- The Stock Exchange Code and associated Listing Rules.

In light of these considerations, CLP's Non-executive Directors are paid fees in line with market practice, based on a formal independent review undertaken no less frequently than every three years. Those fees were reviewed at the beginning of 2016, with full details included in the Human Resources & Remuneration Committee Report in our 2016 Annual Report. The fees paid to each Non-executive Director in 2016 are also set out in the Human Resources & Remuneration Committee Report.

In assessing organisational performance, the Committee takes into account a balanced scorecard of measures. Given the scale and complexity of our Group, there are a large number of such measures, including both quantitative and qualitative factors.

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Given this situation, there is not a formulaic mathematical determination of performance, rather it is a balanced judgement of the Committee taking all relevant factors into account.

In reaching their decision, the Committee considers two questions:

- How well did Senior Management manage performance this year?
- How well are they managing the strategic positioning of the business for the future and ensuring its sustainability?

The quantitative financial and operational targets considered by the Committee include the following:

AREA OF PERFORMANCE	TARGETS
<b>Financial</b>	<ul style="list-style-type: none"> <li>• Operating EPS</li> <li>• Operating earnings</li> <li>• ROE</li> </ul>
<b>Safety</b>	<ul style="list-style-type: none"> <li>• LTIR</li> <li>• TRIR</li> <li>• Fatalities</li> </ul>
<b>Environmental</b>	<ul style="list-style-type: none"> <li>• Regulatory non-compliance cases</li> <li>• CO<sub>2</sub> intensity</li> <li>• Emissions</li> <li>• Renewable Energy capacity as a % of new generation portfolio</li> </ul>
<b>Internal control</b>	<ul style="list-style-type: none"> <li>• Number of Not Satisfactory Audits</li> <li>• Number of Code of Conduct cases</li> </ul>

In addition to these financial and operational measures, the Committee also set a small number of specific qualitative targets each year reflecting the strategic priorities of the Group. In 2016 these targets included:

- review of the Group strategy and the implications of COP21;
- progress on organisational development and capability building to meet the challenges presented by digital disruption; and
- progression of long-term growth opportunities outside of Hong Kong.

Finally, the Committee considers the performance of Senior Management in ensuring the long-term sustainability of the organisation in relation to four dimensions:

- Business Model;
- People and Organisational Capability;
- Environmental Impact; and
- Community Acceptance.

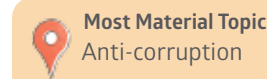
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## CODE OF CONDUCT

**We care how results are obtained, not just that they are obtained and so all our employees are under specific obligations to act with integrity in all their activities.**



We are committed to acting with integrity in all our business activities as integrity is a vital company asset that helps build the trust that has ensured our continued expansion for more than a century.

All employees of the company are expected to fully adhere to the principles contained in the Code of Conduct. This Code of Conduct, which has been aligned across the CLP Group, is set out in full on our website. Management and staff receive training on the Code and its implications periodically. Management and staff above a designated level or in certain functions are required to sign annual statements confirming compliance with the Code.

See Code of Conduct on our website.

Non-compliance with the Code of Conduct results in disciplinary action. Disciplinary measures are subject to review and endorsement by a Group Code of Conduct

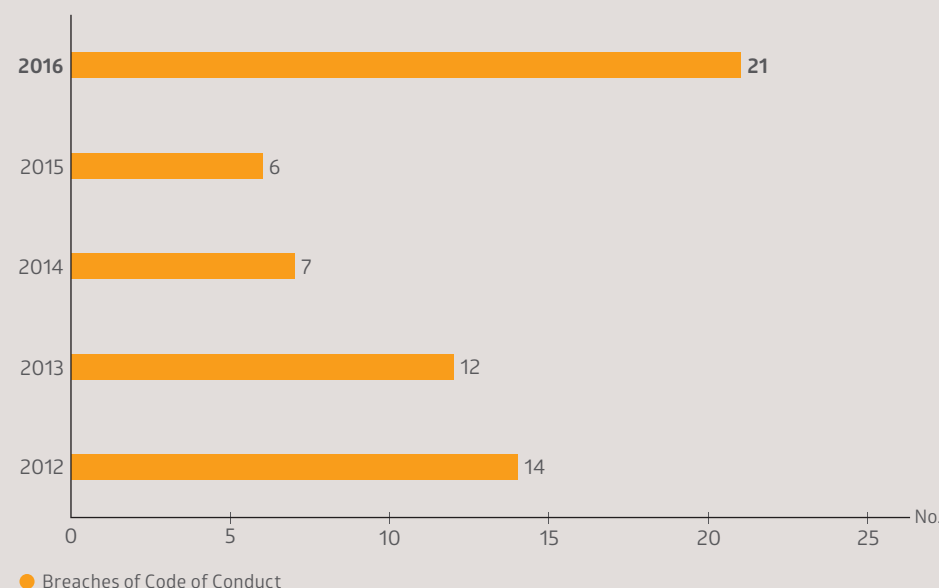
Committee, which comprises the Executive Director & Chief Financial Officer, Group General Counsel & Chief Administrative Officer and Chief Human Resources Officer. During 2016, there were 21 breaches (2015: six) of the Code.

None of the 21 breaches in 2016 was material to the Group's financial statements or overall operation. The breaches were mainly related to issues of work place behaviour. Sanctions ranged from reprimands to dismissals. Compared to the previous year, the relatively higher number of breaches in 2016 reflected the improved identification and stricter enforcement of work place behaviour requirements. Of the reported Code of Conduct violation cases, there was one suspected Code of Conduct violation in respect to bribery (2015, nil case). Two of our employees were alleged to be indirectly involved in a bribery case related to one of our third party contractors. While this did not concern any of the business units of CLP, the

alleged indirect involvement on the part of the two employees was considered as a violation against our strict principle of "No Bribery" as stipulated in our Code of Conduct. Another case involved a senior manager, in this context senior manager refers to staff graded at Hay

Reference level 20 and above and did not involve any member of our Senior Management as disclosed in our 2016 Annual Report.

### Breaches of Code of Conduct



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Our Code of Conduct is the tool we use to guard against corruption within CLP. We take corruption seriously, and cases of corruption are externally reported and the data is verified by a third party before results are reported in our Sustainability Report. In 2016, we had no cases of corruption at CLP.

We have a Whistleblowing Policy to encourage employees and related third parties (such as customers and suppliers) who deal with the Company to raise concerns, in confidence, about misconduct, malpractice or irregularities in any matters related to the Company. In 2016, changes were made to the policy regarding the requirement of written complaints and enhancing the communications policies with respect to the complainant. During 2016, there were 23 reported cases of whistleblowing (2015: 15).

## Anti-Competitive Behaviour

Our Code of Conduct sets out our commitment to comply with laws and regulations, and this includes compliance with competition laws. In line with our Code of Conduct and the CLP Group Competition Policy Statement, CLP is

committed to compliance with competition and antitrust laws in force in all countries in which we operate. All CLP directors, officers and employees are expected, in his or her conduct of the company's business, to observe and comply with competition laws.

Compliance with competition laws is monitored under our regulatory compliance programme. Different compliance programmes are used in different jurisdictions. For example, in the Hong Kong business, the Competition Compliance Manual and established protocols provide practical guidance to staff in their day-to-day work activities. There is also a governance structure which allocates responsibilities for compliance with competition laws across all levels of the business.

The CLP-wide reporting system for Code of Conduct violations applies to any alleged or potential breaches of competition law. All CLP staff are expected to co-operate fully in the investigation of any alleged violation, and disciplinary action applies to any staff that has been found in breach of the Code of Conduct.

In 2016, there were no new legal cases regarding anti-competitive behaviour. There is one existing and previously reported case involving our Ho-Ping Power Station in Taiwan, in which the CLP Group has an effective 20% equity interest. The Ho-Ping litigation is for alleged concerted action with other independent power producers (IPPs) in violation of the Fair Trade Act. The Taiwan Fair Trade Commission (FTC) in 2013 ruled and fined nine IPPs for alleged cartel behaviour. The FTC's decision was eventually overruled by the Taipei High Administrative Court in October 2014. However the FTC has since successfully appealed the Taipei High Administrative Court's decision to the Supreme Administrative Court, and the case will return to the Taipei High Administration Court for re-examination. Ho-Ping will continue to pursue and defend its positions in the Taipei High Administration Court's re-examination of the case.



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## LEGAL COMPLIANCE

**We not only comply to all applicable laws and regulations, but we voluntarily follow other standards that go beyond legal requirements and which reflect our principles and values.**

We comply with all applicable laws and regulations and are prepared to forego opportunity or advantage in order to maintain our high standards of corporate governance and integrity.

The CLP Group operates in a number of different jurisdictions with different legal and regulatory requirements and we often find ourselves faced with an evolving legal and regulatory regime that affects our operations.

Compliance with legal and regulatory requirements in the jurisdictions that we operate in has always been, and will continue to be a matter of top priority for us. Our commitment to compliance is demonstrated by our low number of noncompliance cases resulting in a significant fine (> HK\$1 million).

During the year, there was one environmental issue at Sandu I wind farm in Guizhou province where the construction of an access road and wind turbine platforms resulted in greater impact on the environment and forestry land than initially authorised. The local Forestry authority has imposed a sanction totalling RMB14 million as at the end of 2016. A site environment restoration programme has mostly mitigated the impact with some seasonal revegetation works to be carried out in 2017. Project management and technical procedures have been enhanced to improve our future performance at this type of geographically difficult location.

📶 This case is also reported in Natural Capital chapter in this report.



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## MOST MATERIAL TOPICS

INTERVIEW WITH THE CCDO

STAKEHOLDER ENGAGEMENT

2016 KEY STAKEHOLDER CONCERNS OR INTERESTS

LENDERS

INVESTORS / SHAREHOLDERS

GOVERNMENT AND REGULATORS

INDUSTRY AND PROFESSIONAL ORGANISATIONS

CUSTOMERS

EMPLOYEES

SUPPLIERS AND CONTRACTORS

COMMUNITIES, NGOS AND MEDIA

ACADEMIA AND SCHOOLS

Building trust by engaging and creating mutual benefits with our stakeholders for a more sustainable community and hence business.

For 2016, the following most material topics relevant to this chapter were identified:

### Public Policy

Our industry is heavily regulated so policies and laws are naturally a major influence on our business. Participation in public policy discussions enables us to stay ahead of such developments and can inform our strategic decision-making, as well as support policymakers shape sound policies that balance the often conflicting stakeholder expectations on the economic, social and environmental dimensions of energy.

### Customer Privacy

With the advent of digitalised communications, customers are becoming more educated and savvy about privacy concerns. Failure to protect our customers' personal information would affect customer loyalty and our brand as well as result in legal non-compliance.

### Socioeconomic Compliance

Compliance with social and economic laws and regulations is the basic requirement for gaining the social licence to operate. Monitoring the emerging regulations is also important to help us gauge the changing social expectations and implications for our business.

### Demand-side Management

Customers desire the optimisation of their energy use in order to reduce their electricity bills and contribute to a greener environment. Our energy system can benefit from shifting energy consumption from peak to non-peak hours, reducing the need for investments in networks and/or power plants for meeting peak demands.

### Local Communities

Maintaining strong relationships both internally and externally is critical for the sustainability of our business. To ensure we continue to have a social licence to operate, it is critical that the communities in which we operate not only trust us, but also view our company as one that contributes to the sustainable development of their future.



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## INTERVIEW WITH THE CHIEF CORPORATE DEVELOPMENT OFFICER

### ? What were the highlights for you in 2016?

There were two initiatives that were most exciting. First, the company underwent a rebranding exercise. For a company that has been around for over 100 years and has remained for the most part quite traditional, it was a big deal to be able to refresh its corporate branding, bringing in new colours and a new icon. It was exciting as the change also marks how the company itself is entering a new era to become an organisation that is more energetic, forward-looking and innovative, contrary to its longstanding image in the past.

Secondly, in terms of community initiatives, I have always believed in the transformational impact that education can bring. Last year our Hong Kong business launched a resource kit designed for kindergartens to learn about power supply and climate change. This completed our range of youth education programmes to cover the age span from 3 to 23. With a more holistic approach towards educating the younger generation on energy and environmental issues, we hope that we are helping to prepare and nurture the next generation of engineers and environmental professionals.

### ? What were the key challenges in 2016?

From an operations perspective, there were some customer-related challenges such as voltage dips experienced by some of our customers in Hong Kong. While it is not possible to completely avoid volt dip incidents, we will continue to work hard on reducing the probability of such events recurring and to strengthen our capability to support our customers during such events to reduce the inconvenience caused. From a market perspective, there is the ongoing intense competition for customers in Australia. Despite this, EnergyAustralia has managed to increase customer tenure with improvements to customer service and investment in its capability to develop new products and services.

More broadly, 2016 was a year of black swans, with BREXIT in the UK and the newly elected leadership in the US. The past does not seem to be a good predictor of the future anymore – we live in very uncertain times. Trust in government and business continues to decline, making the business environment more

challenging to work in. The fragmented media landscape and extreme diversity in stakeholder views is also contributing to more social tensions.

Fortunately, throughout the year, we have received positive stakeholder feedback through awards and accolades. A perception survey showed that we are perceived to be professional and reliable and that we care for the environment and the community. Our brand tracking performance also improved in 2016.

### ? What keeps you awake at night?

In addition to the fragmented media landscape and stakeholder views, cyber security is increasingly an important topic. For a company like ours, we have so much data and communications with our customers and stakeholders every day that we become more vulnerable as more and more of our information gets uploaded to the cloud. The company is also facing the threat of business model disruption, as is the rest of our sector and climate change and digitalisation have been influential drivers of this pending disruption.

### ? How can we prepare for the future?

We must embed innovation into our culture, on top of our strong focus on delivering safe and reliable power. We should help our staff embrace technology and to use technology whenever applicable to improve efficiency in our operations and engagement with our community for example. At the same time, we should also raise staff awareness on cyber security and on how to apply different technologies to manage the related risks. We should also be much more customer-centric – instead of simply selling what we have, we need to get our customers and community excited about what energy means to them, in the lead up to a low carbon lifestyle that digital communications and mobile technology can bring to them.



Quince Chong  
Chief Corporate Development Officer of CLP Group

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## STAKEHOLDER ENGAGEMENT

We engage our stakeholders through open and transparent channels of communications to solicit and consider their views and respond in a timely manner to their concerns about our business.

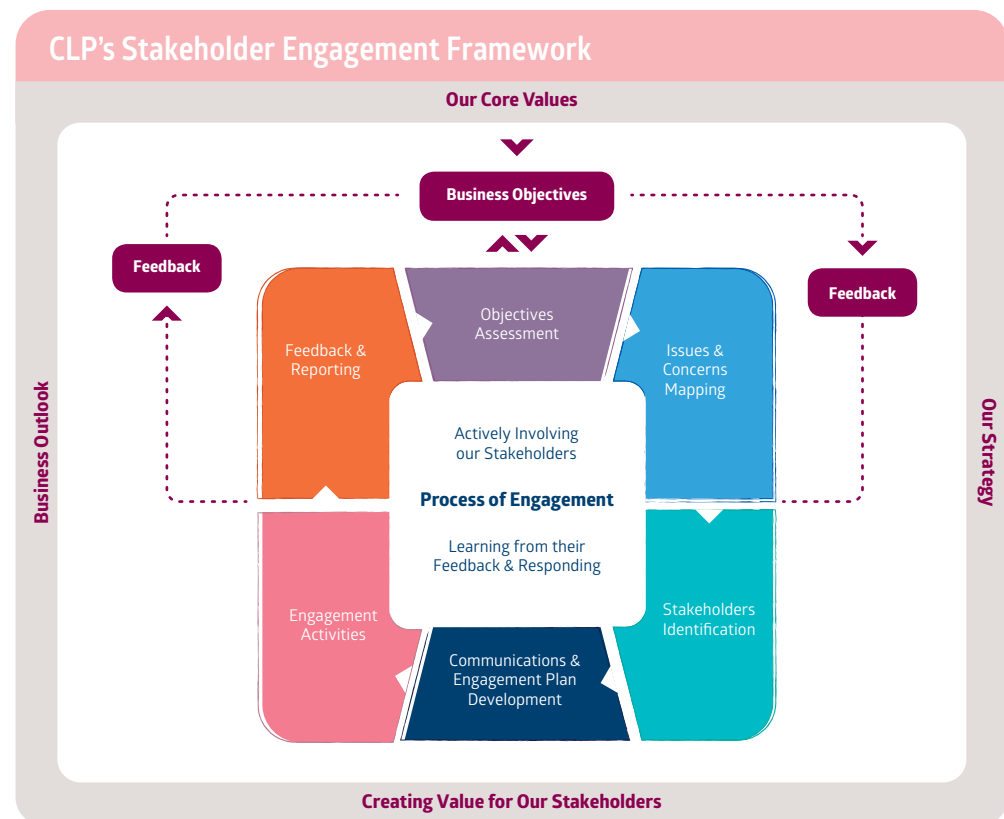
### OUR APPROACH 102-42 102-43

In our Value Framework, we have published our Commitment to communicate regularly with our stakeholders, providing open and transparent channels for their input, reviewing and considering that input and responding in a timely manner to their concerns about our business. All CLP employees are expected to conduct their engagements with stakeholders in accordance with the Code of Conduct and the Value Framework at all times.

We have a Stakeholder Engagement Framework that guides us through the steps of: aligning the engagement objectives with our business objectives; mapping issues and concerns; identifying relevant stakeholders; developing a communications and engagement plan; conducting the engagement activities; capturing feedback and reporting on the outcomes.

The effectiveness of our approach to stakeholder engagement is reflected by a wide range of measures, including: stakeholder feedback comments; inputs and outcomes of engagements; positive and/or negative news about the company; brand perception ratings; recognition and awards; and many others.

See Commitments On Communications and Reporting.
















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## ENGAGING WITH OUR KEY STAKEHOLDERS 102-40 102-42 102-43

Our business activities involve a diverse range of stakeholders, but we have identified the key stakeholder groups who are instrumental to the success of our business and who are also included in our Value Framework. Here we present who our key stakeholders are, why they are important and how we communicate with them.

KEY STAKEHOLDERS	ENGAGEMENT CHANNELS
<b>Provide Capital</b> <div>  Lenders*            Investors / Shareholders         </div>	<ul style="list-style-type: none"> <li>Annual General Meetings</li> <li>Annual and Interim Reports</li> <li>Announcements and Circulars</li> <li>Shareholders' visit programme</li> <li>Investor meetings and roadshows</li> <li>ESG meetings</li> </ul>
<b>Grant Licence to Operate</b> <div>  Governments            Regulators         </div>	<ul style="list-style-type: none"> <li>Regular working meetings</li> <li>Regular performance reporting</li> <li>Written responses to public consultations</li> </ul>
<b>Purchase Fuel, Materials, Equipment &amp; Services</b> <div>  Suppliers            Contractors         </div>	<ul style="list-style-type: none"> <li>Supplier management meetings and engagements</li> <li>Supplier Assessment System</li> </ul>
<b>Operate Our Business</b> <div>  Employees         </div>	<ul style="list-style-type: none"> <li>Employee Engagement Survey</li> <li>Employee feedback channels (forms, suggestion box, etc.)</li> <li>Regular management communications, roadshows and performance reviews</li> <li>Employee Newsletters and Broadcasts</li> <li>CLP Intranet Portal</li> </ul>
<b>Purchase Our Products /Services</b> <div>  Residential Customers            Commercial and Industrial Customers            Electricity Board and Grid Companies         </div>	<ul style="list-style-type: none"> <li>Customer Consultative Group, Local Customer Advisory Committees</li> <li>SME Consultative Group</li> <li>Customer satisfaction surveys and feedback forms</li> <li>Customer Service Centres and Customer Interaction Centre</li> <li>Online service portals</li> <li>Account managers</li> </ul>
<b>Share Knowledge &amp; Build Trust</b> <div>  Academia and Schools            Communities, NGOs and Media            Industry and Professional Organisations         </div>	<ul style="list-style-type: none"> <li>Working Committees, Advisory Committees, panels and meetings</li> <li>Seminars, lectures and workshops</li> <li>Public / community events and partnerships on various initiatives</li> <li>Community investment programmes</li> </ul>

\*Lenders include perpetual capital securities holder



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## 2016 KEY STAKEHOLDER CONCERNS OR INTERESTS

We are committed to responding in a timely manner to our stakeholders' concerns about our business, which vary depending on the location and context and therefore require different actions or responses.

### OUR APPROACH

In our Value Framework, we have published our Commitment to communicate regularly with our stakeholders, providing open and transparent channels for their input, reviewing and considering that input and responding in a timely manner to their concerns about our business.

 See Commitments On Communications and Reporting.

Within each of the regions we operate, we generally engage similar stakeholder groups which include lenders, investors/ shareholders, government and regulators, industry and professional organisations, customers, employees, suppliers and contractors, communities, non-government organisations (NGOs) and media.

To inform the content of this report, we collect stakeholder concerns or interests

through our existing stakeholder engagement channels in our daily operations throughout the year. The main topics that arose during the year in our various regions, as well as the actions we undertook to address them, are summarised in the following tables by stakeholder group.

The demographic and social norms as well as market structures are different in the different regions and each of our local business units are of different size and level of maturity. Hence, the stakeholder concerns or interests and priorities often vary between the regions. For example, reliability of power supply is not a key concern in Hong Kong but a priority in Australia, where the blackout in South Australia last September underscores the need for a holistic, stable and coordinated national energy policy.

On the other hand, some topics are common across the stakeholder groups, but more

tailored actions are applied to address them in the most effective and appropriate manner. For instance, on the topic of energy efficiency and conservation, we engage professional bodies through meetings and seminars, customers through digitalised solutions, and academia through educational programmes.

We believe that this approach helps integrate our operational, business strategy and reporting objectives, as well as reduce what some of our stakeholders refer to as "engagement fatigue".

The effectiveness of our approach to addressing stakeholder concerns and interests is reflected by a range of measures, including: stakeholder feedback comments, inputs and outcomes of engagements, positive and/or negative news about the company, brand perception ratings, recognition and awards, and many others.



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## LENDERS 102-44

The power sector is a capital intensive industry which requires significant upfront investment with long payback periods. These conditions create risks for providers of capital. Therefore, it is important to maintain a long-lasting relationship with our lenders, enabling us to acquire sustainable, diversified, cost-effective and long-tenured funding on a timely basis to support business growth.



REGION/ LEVEL	KEY CONCERNS OR INTERESTS IN 2016	SPECIFIC ACTIONS TAKEN BY CLP IN 2016
<b>Group Level or General</b>	<ul style="list-style-type: none"> <li>Business sustainability and financial performance of overseas businesses particularly in Australia and India</li> <li>CLP Group's investment strategy and financial performance</li> </ul>	<ul style="list-style-type: none"> <li>Exercised a high level of discipline in managing our investments and financials, and demonstrated strong competence in managing operating and financial performances of CLP's overseas businesses</li> <li>Articulated the Group's clear strategic vision of "Focus. Delivery. Growth"; maintained healthy financial profile with stronger than budgeted business performances</li> </ul>
<b>Hong Kong</b> 	<ul style="list-style-type: none"> <li>Review on post-2018 regulatory arrangement</li> </ul>	<ul style="list-style-type: none"> <li>While the review is still ongoing, Scheme of Control business has further optimised the debt profile; and strengthened the capital structure ensuring adequate financial flexibility to meeting future challenges including financing for the combined cycle gas turbine project</li> </ul>
<b>Mainland China</b> 	<ul style="list-style-type: none"> <li>Financial stability and loan portfolio management amidst market uncertainties</li> <li>Maintenance of loan portfolio under overall credit tightening</li> </ul>	<ul style="list-style-type: none"> <li>Diversified the funding source by tapping into offshore RMB bank loan market in Hong Kong in the past years to fund construction and early period of operation of our wholly-owned renewable energy projects in Mainland China</li> <li>Cultivated and maintained long-term relationships with key lenders in Mainland China</li> </ul>

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## INVESTORS/ SHAREHOLDERS 102-44

Our goal is to create long-term and sustainable value for shareholders who are the ultimate owners of our company. Our shares are being held by a wide range of institutional investors, as well as a considerable number of retail investors, who are mostly residents in Hong Kong.



The Shareholders' Communication Policy forms the basis for extensive and ongoing engagement with our shareholders and the investment community.

 See the Shareholders' Communication Policy

REGION/ LEVEL	KEY CONCERNS OR INTERESTS IN 2016	SPECIFIC ACTIONS TAKEN BY CLP IN 2016
<b>Institutional investors</b>	<ul style="list-style-type: none"> <li>Impact from COP 21</li> <li>The internal governance process of CLP's Climate Vision 2050 and the potential business opportunities it could bring in</li> <li>CLP's exposure to coal-fired generation and carbon footprint reduction measures</li> </ul>	<ul style="list-style-type: none"> <li>Provided our financial and operational metrics associated with our investment in thermal, nuclear and renewable generation, and maintained a dialogue with institutional investors in formulating policy and response</li> <li>Conducted meetings with analysts and institutional investors to explain our position and strategy</li> <li>Directed answers to letters from institutional investors</li> </ul>
<b>Retail Shareholders</b>	<ul style="list-style-type: none"> <li>Regulatory developments and business opportunities in Hong Kong, Mainland China and Australia</li> <li>Operational performance of our Indian and Australian businesses</li> <li>Our investment strategy to address climate change</li> <li>Dividends and managing our financial and debt position</li> </ul>	<p> Details of the key questions and how we address them are covered in the Corporate Governance report of our Annual Report</p>

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## GOVERNMENTS AND REGULATORS 102-44

The power sector has been and continues to be a heavily regulated sector. Hence, we maintain regular communications with governments and regulators. Communications traditionally focused more on operational compliance, however, there is an increasing need to communicate and discuss new emerging challenges that require more strategic and even deep-rooted systemic changes in the energy system. As a result, our engagement with governments and regulators is imperative to delivering sustainable low carbon energy systems for the future.

### Independence

Although CLP operates in a heavily regulated industry, we are not associated with any government body. CLP is a publicly held company listed on the Hong Kong Stock Exchange.

None of the companies in the CLP Group receives any significant financial assistance from the government outside of those financial incentives or subsidies, which are in place to encourage market participants to behave in certain ways. Examples of such incentives include tax holidays and preferential tariffs for renewable investment or financial assistance from export credit agencies.

### Political Neutrality and Public Policy Positions

In our Value Framework, we are committed to contributing to the development of sound government policies and laws that balance the social, economic and environmental needs and support the long-term development of the communities we serve.

It is our policy to remain politically neutral and to avoid making political contributions. For public policy developments which apply to the electricity industry, we take

public policy positions and participate in the discussions. We feel that in bringing our industry expertise to the table, we can add value to the discussion on how best to structure rules for our industry going forward, as both technology and public demand for our product evolves.

Our responses to public policy consultations as well as our key company positions, such as on climate change, are all published and accessible on our company websites.

See the Market and Regulatory Planning section in this report.

 **Most Material Topic**  
Public Policy






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## GOVERNMENTS AND REGULATORS (CON'T) 102-44

REGION/ LEVEL	KEY CONCERNS OR INTERESTS IN 2016	SPECIFIC ACTIONS TAKEN BY CLP IN 2016
<b>Group Level or General</b>	<ul style="list-style-type: none"> <li>Regulatory compliance</li> </ul>	<ul style="list-style-type: none"> <li>Held regular meetings and maintained communications with government, regulators and advisors</li> </ul>
<b>Hong Kong</b> 	<ul style="list-style-type: none"> <li>Tariff review for 2017</li> <li>Post-2018 regulatory arrangements</li> <li>Environmental Impact Assessment (EIA) and approval of project proposal for additional gas-fired generation</li> <li>A detailed EIA study for building an offshore liquefied natural gas (LNG) terminal in Hong Kong waters</li> <li>Technical Memorandum (TM) that sets emissions caps for 2021 and thereafter</li> <li>Resilience of our electricity supply systems to extreme climate conditions, e.g. super typhoons, severe floods</li> </ul>	<ul style="list-style-type: none"> <li>Ongoing dialogue with the relevant government departments, legislators and political parties on regulatory matters</li> <li>Commenced discussions with government on the post-2018 regulatory arrangements to follow the current Scheme of Control</li> <li>On the proposal for additional gas-fired generation unit at Black Point Power Station, the Government approved the EIA report and granted the Environmental Permit in June 2016, while the project proposal was approved in December 2016</li> <li>Conducting a comprehensive EIA Study for the offshore LNG terminal</li> <li>Worked with the Environmental Protection Department on a new TM that sets emissions caps for 2021, which was passed in December 2016</li> <li>Completed the reinforcement project on the pylons of 400kV overhead lines and various critical structures at Castle Peak Power Station to better withstand super typhoons, finished the installation of flood damage mitigation and alarm systems at low-lying substations, continued strengthening vegetation management capability, and conducted post-typhoon reviews and regular drills</li> </ul>
<b>Mainland China</b> 	<ul style="list-style-type: none"> <li>Safety and reliability</li> <li>Emergency readiness (especially nuclear)</li> </ul>	<ul style="list-style-type: none"> <li>Exchanged regularly with government to build support and increase understanding of CLP's safety culture</li> <li>Demonstrated to government authorities through established reporting channels, monitored activities and regular communications, the robustness of nuclear operation in meeting regulatory compliance in safety, reliability and emergency readiness</li> </ul>
<b>Australia</b> 	<ul style="list-style-type: none"> <li>The national climate change policy and Renewable Energy Target (RET)</li> <li>Balancing reliability, affordability and lowering emissions of power supply</li> <li>State-based renewable energy policies</li> </ul>	<ul style="list-style-type: none"> <li>All concerns/issues are managed through contributing to expert reviews at Australian Parliamentary committees and forums, and actively participating in industry groups</li> </ul>



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## INDUSTRY AND PROFESSIONAL ORGANISATIONS 102-44

We engage with industry and professional organisations and experts to share knowledge, information, experience and best practice, as well as to stay abreast of current and emerging developments, trends and opportunities for our business.

Although we often adopt international standards and practices, we do not easily endorse international charters and principles due to the fact that we take these initiatives very seriously and do not adopt them unless we are certain we can meet all the relevant criteria or requirements robustly. If we do not officially adopt them, we still do often follow or reference best practices included in such charters since we are always looking to continuously improve.

### Voluntary International Commitments

Over the last few years, we have committed to a number of international initiatives, particularly for climate change, including:

- since 2014, we have been an active member of the Scaling Up Renewables project under the Low Carbon Technology Partnerships Initiative (LCTPi) led by the World Business Council for Sustainable Development (WBCSD) and supported by We Mean Business;

[See details](#)

- in 2014, we submitted our Climate Vision 2050 commitment to the United Nations Sustainable Energy for All (SE4All) initiative;

[See details](#)

- in 2015, we committed to three of the CDP commitments including, mainstream climate reporting, responsible corporate engagement and science-based targets; and

[See details](#)

- in 2015, we became involved with the We Mean Business Coalition through our CDP commitments.

[See details](#)

### Cross-sector Engagement to Advance the Smart City Agenda

We commit to empowering the industry with new technologies and making lives smarter through close collaboration with important organisations.

In Hong Kong, the CLP Research Institute co-hosted an international workshop with International Electric Research Exchange (IERE) in November 2016 to discuss how technologies, Big Data, and their intelligent applications can enhance people's lives. The workshop was attended by the Government and over 100 industry experts, business executives, academics and research professionals from Hong Kong and eight countries.



[Read about the IERE workshop.](#)

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## INDUSTRY AND PROFESSIONAL ORGANISATIONS (CON'T) 102-44

As part of our international engagement activities, we are members of several international business organisations to help us:

- Monitor emerging trends and assess potential related business risks and opportunities;
- Introduce best practices to improve operational efficiency and business performance;
- Explore new technologies and potential business paradigms to uphold our licence to operate;
- Strengthen our internal capacity for addressing emerging issues; and
- Stimulate thought leadership and share our experience and knowledge to build trust and credibility in the international community as well as amongst our local stakeholders, including government, industry, academia and the general public.

See page 73 for a list of memberships in industry and professional organisations.




REGION/ LEVEL	KEY CONCERNS OR INTERESTS IN 2016	SPECIFIC ACTIONS TAKEN BY CLP IN 2016
Group Level or General	<ul style="list-style-type: none"> <li>• Climate change</li> <li>• Reliability of power supply</li> <li>• Extreme weather</li> <li>• Emissions trading</li> <li>• Transparency and reporting</li> </ul>	<ul style="list-style-type: none"> <li>• Engaged with the: World Business Council for Sustainable Development (WBCSD), World Energy Council (WEC), MIT Joint Program on the Science and Policy of Global Change (MITJIP), International Electric Research Exchange (IERE), Electric Power Research Institute (EPRI), International Emissions Trading Association (IETA), International Integrated Reporting Council (IIRC) and Global Reporting Initiative (GRI)</li> </ul>
Hong Kong	<ul style="list-style-type: none"> <li>• Supply reliability</li> <li>• Future fuel mix to address climate change and air quality issues</li> <li>• Future gas supplies sourcing</li> <li>• Demand side management and energy saving</li> <li>• Development of smart grid and smart city</li> <li>• Nurturing young engineers</li> </ul>	<ul style="list-style-type: none"> <li>• Held regular meetings and briefings with CLP's professionals and experts</li> <li>• Participated, presented, spoke and / or officiated at seminars, classes and events</li> <li>• Arranged visits to CLP's facilities to share CLP's efforts in enhancing supply reliability, cost control and environmental performance</li> <li>• Held discussion workshops after visits to explore opportunities for collaboration</li> <li>• Engaged with professional organisations such as The Hong Kong Institution of Engineers (HKIE)</li> <li>• Participated in the government work group on smart city development</li> </ul>

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## INDUSTRY AND PROFESSIONAL ORGANISATIONS (CON'T) 102-44

<b>Mainland China</b> 	<ul style="list-style-type: none"> <li>• Nuclear energy development</li> <li>• Reliability of power</li> </ul>	<ul style="list-style-type: none"> <li>• Engaged with the China Nuclear Energy Association (CNEA) and China Electricity Council (CEC)</li> </ul>
<b>India</b> 	<ul style="list-style-type: none"> <li>• Climate change</li> <li>• Wind industry development</li> </ul>	<ul style="list-style-type: none"> <li>• Participated in forum hosted by the Confederation of Indian Industry (CII) in COP22</li> <li>• Continued to engage with industry organisations such as TERI Council for Business Sustainability, Indian Wind Power Association (IWPA) and Association of Power Producers (APP)</li> </ul>
<b>Australia</b> 	<ul style="list-style-type: none"> <li>• Competitive energy market issues</li> <li>• Solar installation and energy storage</li> </ul>	<ul style="list-style-type: none"> <li>• EnergyAustralia represented on the Board and working groups of the Australian Energy Council (AEC) and Business Council of Australia (BCA)</li> <li>• EnergyAustralia representative appointed chair of the new Market Directorate within the Clean Energy Council (CEC)</li> </ul>

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## INDUSTRY AND PROFESSIONAL ORGANISATIONS (CON'T) 102-44

### INTERNATIONAL

ORGANISATION	ABOUT THE ORGANISATION	CLP'S INVOLVEMENT
World Business Council for Sustainable Development (WBCSD)	WBCSD is a global, CEO-led organisation of over 200 leading businesses working together to accelerate the transition to a sustainable world.	<p>CLP has been a member since 2001. Our CEO is a Council Member and has been a member of the Climate and Energy Cluster Board since 2014.</p> <p>During 2015, under one of WBCSD's Low Carbon Technology Partnership Initiatives (LCTPi), CLP joined forces with 15 other energy and technology companies from around the world and agreed on a shared vision to accelerate the deployment of renewable energy to limit global temperature rise to under 2°C.</p> <p>CLP actively contributed to the REscale-Scaling up renewables programme and three reports were generated. The Town Island microgrid in Hong Kong was used as one of the demonstrated cases to promote the viability of microgrids.</p> <p>CLP was also an active co-chair participating in WBCSD's new business solutions – Utility of the Future. The project was successfully completed with MIT releasing its final report December 2016.</p>
World Energy Council (WEC)	Formed in 1923, WEC is a UN-accredited global energy body, represented by more than 3,000 member organisations located in over 90 countries. WEC informs global, regional and national leaders on energy strategies and facilitates the world's energy policy dialogue.	<p>We have engaged with WEC since 1988. Our CEO is currently the chairman of WEC Hong Kong Membership Committee (WECHKMC).</p> <p>The triennial WEC Congress was held in Istanbul, Turkey in October and our CEO attended the full event and also spoke in the Innovative Business Models session.</p>
MIT Joint Program on the Science and Policy of Global Change (MITJP)	MITJP was founded in 1991 and is a joint effort of two distinct centers: the MIT Center for Global Change Science (CGCS), and the MIT Center for Energy and Environmental Policy Research (CEEPR). MITJP focuses on studying the interactions between human activities and the Earth systems to provide a foundation of scientific knowledge that will aid decision-makers in confronting the world's challenges.	<p>CLP has been a sponsor of the MITJP since 2011.</p> <p>CLP continued to participate in regular meetings to capture various emerging issues and global challenges related to climate, energy, technology, environment and economics. In 2016, MIT experts on climate and economics were also in Hong Kong to deliver talks to CLP as well as the local community on the environment-energy-water-land nexus and global experience on carbon pricing.</p>
International Electric Research Exchange (IERE)	IERE is a worldwide, non-profit organisation established in 1968. It serves executives, senior managers, engineers, and researchers who are responsible for electricity and energy-related R&D and solutions.	<p>CLP has been a regular member of IERE since 2000 and an Executive Member since 2014.</p> <p>CLP-RI co-hosted a workshop with IERE entitled "Smart Cities- A Convergence of Technologies, People and Big Data". The event brought together over a hundred industry experts, senior executives, researchers and academics to exchange views, findings and experiences on developing a smart city for tomorrow.</p> <p>CLP continued to work with IERE in developing the IERE Technology Foresight 2020 and also the joint R&amp;D programme of using methanol as an ageing marker for transformers.</p>

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## INTERNATIONAL (CON'T)

ORGANISATION	ABOUT THE ORGANISATION	CLP'S INVOLVEMENT
Electric Power Research Institute (EPRI)	EPRI is independent, non-profit organization conducting research and development relating to the generation, delivery and use of electricity for the benefit of the public.	CLP has long been associated with EPRI working together on electric systems since 2000. In 2016, CLP was working with EPRI on a project studying the characteristics and field performance of different high-temperature low-sag conductors. The EPRI project enabled us to learn and appreciate how the new technology can be implemented in our transmission network.
International Emissions Trading Association (IETA)	The International Emissions Trading Association (IETA) is a non-profit business organisation founded in 1999 to establish a functional international framework for trading in greenhouse gas emission reductions.	CLP has been a corporate member of IETA since 2009.  In CLP continued to participate in various IETA workshops and conferences to exchange views and updates on the latest international trends, and particularly the Chinese Emissions Trading Scheme (ETS). In 2016, our Director-Group Sustainability returned as a Board member.
International Integrated Reporting Council (IIRC)	IIRC is a global coalition of regulators, investors, companies, standard setters, the accounting profession and NGOs, promoting communication about value creation as the next step in the evolution of corporate reporting.	CLP was involved as a Working Group member from 2010-2014 and was one of the original pilot companies of the <IR> Framework.  Our CFO became a Council member of the IIRC in 2015 and continued his involvement in 2016.
Global Reporting Initiative (GRI)	GRI is a network-based NGO that helps businesses, governments and other organisations understand and communicate the impact of business on critical sustainability issues.	CLP is one of the early adopters of the GRI reporting guidelines.  In 2016, CLP continued its involvement as a member of the Stakeholder Council and the Corporate Leadership Group on Reporting 2025.

## HONG KONG

ORGANISATION	ABOUT THE ORGANISATION	CLP'S INVOLVEMENT
Hong Kong Institution of Engineers (HKIE)	With the vision of supporting "sustained excellence in the engineering profession", the HKIE sets standards for training and admission of engineers. It sets strict rules governing the conduct of its members; and as a learned society, it enables its members to keep abreast of the latest developments in engineering.	Many CLP colleagues are active within the HKIE, participating in trainings, events and as Committee Members for a number of Divisions including the Electrical Division, Gas & Energy Division, Nuclear Division and Environmental Division, as well as various special task forces focusing on different development aspects of the profession. The Managing Director of CLP Power is a local representative of HKIE.
Business Environment Council (BEC)	BEC is an independent, non-profit organisation set up by the business sector in 1992. It promotes environmental excellence by advocating the uptake of clean technologies and practices which reduce waste, conserve resources, prevent pollution and improve corporate environmental and social responsibility.	CLP is a founding member of BEC and our CEO currently sits on the Board.  In 2016, our CEO became the Chairman of the Board of BEC. CLP continued to be an active member involved in four advisory groups: Climate Change Business Forum Advisory Group, Energy Advisory Group, ESG Advisory Group and Transport & Logistics Advisory Group.
Hong Kong Green Building Council (HKGBC)	HKGBC is a non-profit organisation established in 2009. It aims to raise green building awareness by engaging the public, the industry and the government, and to develop practical solutions for Hong Kong's unique, subtropical built environment of high-rise, high density urban area, leading Hong Kong to become a world's exemplar of green building development.	CLP is an institutional member of HKGBC and our Senior Director – Customer Business Development sits on the Board.  In 2016, we were involved in the Industry Standards Committee and Public Education Committee and we provided guidance on the direction of programme development and activities. We were also involved in an Act Shop taskforce for retro-commissioning of air-conditioning system to uplift energy efficiency and to establish knowledge sharing platform for the industry in Hong Kong.



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## MAINLAND CHINA

ORGANISATION	ABOUT THE ORGANISATION	CLP'S INVOLVEMENT
China Nuclear Energy Association (CNEA)	CNEA is a national non-profit and non-governmental organisation established in 2007. The CNEA's missions are to implement the national policies on nuclear energy development, promote industrial independent innovation and technical advancement, and support the improvement of safety, reliability and economics of nuclear energy utilisation.	Hong Kong Nuclear Investment Company (HKNIC) joined the CNEA in 2007 and is a standing member of the Governing Council of CNEA.  In 2016, we participated in CNEA's committee meetings and Annual Meeting. We also attended the forums in nuclear power development and in cross-strait nuclear co-operation organised by CNEA.
China Electricity Council (CEC)	Established in 1988, CEC is a joint organisation of China's power enterprises and institutions. Functioning as a bridge between the government and power enterprises, CEC serves its members by appealing to the government on their requests and protecting their legal rights, encourages its members to fulfil their social responsibilities, and promotes the healthy development of the whole industry.	CLP joined the CEC in 1999 and the Managing Director of our China Business Unit is a member of the Standing Committee of this organisation.  We are actively involved in the discussions of key China power sector initiatives including the Reliability Index, 2015 Power Supply-Demand forecast and China Power Sector reform.

## INDIA

ORGANISATION	ABOUT THE ORGANISATION	CLP'S INVOLVEMENT
TERI Council for Business Sustainability (TERI-CBS)	During 2015, TERI renamed its Business Council for Sustainable Development to Council for Business Sustainability. It is an independent and credible platform for corporate leaders to address issues related to sustainable development and promote leadership in environmental management, social responsibility and economic performance.	CLP India has been an active member of TERI-CBS since 2011 and actively participates in the Chief Sustainability Officers (CSO) Forum. Our Managing Director – India is a member of the Executive Committee of TERI-CBS.  Our engagement involves regular participation in knowledge sharing meetings, conferences and development of case-studies to promote industry best practices.
Indian Wind Power Association (IWPA)	Set up in 1996, IWPA is a non-profit organisation which represents the wind energy sector in India. IWPA aims to mainstream wind energy in India and advocate an increase of the penetration of wind energy in the grid to at least 20% by the year 2020.	CLP India has been a member of IWPA for over six years.  We participate in this platform for peer-to-peer learning, knowledge sharing as well as providing inputs. IWPA acts as a stakeholder in the wind industry and looks into matters that potentially affect the growth of the local wind power sector.
Confederation of Indian Industry (CII)	CII is a non-government, non-profit, industry led-organisation, playing a proactive role in India's development process. CII charts progress through dialogues with the central Government on policy issues and interfacing with thought leaders across industries.	CLP India has been a member of CII for a period of time. Our Managing Director – India is the Co-Chair for the CII National Committee on Power.  CLP India participated in multiple forums hosted by CII including side events in COP 22 in Marrakech, where our Managing Director – India was a leading speaker.

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## INDIA (CON'T)

ORGANISATION	ABOUT THE ORGANISATION	CLP'S INVOLVEMENT
Association of Power Producers (APP)	In 2010, Private Power Developers came together to constitute the Association of Power Producers (APP) to highlight the issues faced by the private sector, and to ensure timely redressal of such issues to assure that the capacity addition targets can be met.	<p>CLP India has been a founding member of APP and is one of the active members of the body. We have been playing an instrumental role, for example, our Managing Director – India was the Chairperson in 2014.</p> <p>CLP India played a vital role in policy advocacy in fuel-related matters, PPA issues, measures to improve DISCOMS health amendments to Electricity Act 2003, Tariff Policy, and standard bridging documents (SBDs).</p>

## AUSTRALIA

ORGANISATION	ABOUT THE ORGANISATION	CLP'S INVOLVEMENT
The Clean Energy Council	The Clean Energy Council is the peak body representing Australia's clean energy sector. It is an industry association made up of more than 600 member companies operating in the fields of renewable energy and energy efficiency.	<p>In 2016, an EnergyAustralia representative has been appointed chair of the new Market Directorate within the Clean Energy Council (CEC). The Market Directorate comprises of approximately 30 of Australia's market participants to lead a debate about energy market reform. As part of this appointment, EnergyAustralia also joins the group's policy committee.</p> <p>By having a seat on the CEC, EnergyAustralia will continue to impart knowledge and understanding of the broader wholesale energy market as the industry transitions to lower emissions.</p>
Australian Energy Council (AEC)*	The Australian Energy Council was formed in 2016 and represents 21 major electricity and downstream natural gas businesses operating in competitive wholesale and retail energy markets. These businesses collectively generate the overwhelming majority of electricity in Australia and sell gas and electricity to over 10 million homes and businesses.	EnergyAustralia was an active participant on several committees and working groups established by the AEC covering a range of competitive energy market issues including reviews of national electricity market system security, network ring-fencing arrangements and east coast gas markets.

\* The AEC replaces the Energy Supply Association of Australia (esaa) reported in 2015 Sustainability Report. The esaa became jointly owned and managed by the AEC since 1 January 2016. For details, please refer to essa's website.

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## CUSTOMERS 102-44

Our core business is to supply safe, secure and reliable electricity at a competitive price and with minimal environmental impact to customers across the Asia-Pacific region. We operate retail businesses in Hong Kong and Australia, where the local market structures, regulatory requirements, demand, customer preferences and cultural norms are very different. Our wholesale customers, who purchase power directly from our generation assets, include grid companies in Mainland China and Australia and State Electricity Boards in India.

In this digital era, our customers today are demanding more customised user experience, more digitalised solutions and more choices. We have strived to improve our customer-related infrastructure. For instance, EnergyAustralia opened a new contact centre in the Philippines, while our Hong Kong business continued to enhance its digital retail platforms.

### RESIDENTIAL CUSTOMERS



#### REGION/ LEVEL

#### KEY CONCERNS OR INTERESTS IN 2016

#### SPECIFIC ACTIONS TAKEN BY CLP IN 2016

#### Hong Kong



- Tariff adjustment
- Energy efficiency and conservation
- Customer experience

- Provided bill inserts and bill messages as well as FAQs on CLP website to communicate 2017 tariff adjustment
- Introduced Eco Power 360, a tailored energy-assessment online platform that helps customers use electricity wisely
- Launched CLP Eco Rewards scheme to promote energy saving and enhance customer engagement
- Promoted on a regular basis, energy efficient appliances and eco tours at Mongkok Eco Home and Customer Service Centres
- Partnered with green organisation Greeners Action to organise cooking classes at Tai Po Eco Home to demonstrate how to reduce food waste and turn left over food into a delicious cuisine
- Leveraged Facebook fan pages (Love Cooking Love IC and CLP Eco Home) to promote energy saving tips through wall games
- Utilised social media channels to broadcast live chef cooking demonstrations and induction cooker cooking classes held in Home Delight Expo and CLP Tai Po Eco Home to spread awareness of energy efficiency through an enjoyable way of cooking
- Co-created with a social media operator to launch a new eMagazine – Better Me, to promote Power Your Love Campaign

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## CUSTOMERS (CON'T) 102-44

### Australia



- “Bill shock” and energy prices
- Billing and debt collection
- Customer service quality
- Rooftop solar and feed-in tariffs
- General lack of trust in energy retailers

- Improved assistance to customers experiencing hardship
- Customer service improvements included increased hours for dedicated call centres to assist customers with queries
- Conducted market and focus-group research on consumer needs
- Used Net Promoter Score programme to assess customer satisfaction
- Kept a watching brief on changes to solar and solar feed-in tariffs
- Monitored social media to gauge customers' views
- Launched a Financial Inclusion Action Plan to ensure our processes do not financially exclude customers

### COMMERCIAL AND INDUSTRIAL CUSTOMERS



#### REGION/ LEVEL

#### KEY CONCERNS OR INTERESTS IN 2016

#### SPECIFIC ACTIONS TAKEN BY CLP IN 2016

### Hong Kong



- Tariff adjustment
- Energy efficiency and conservation
- Customer experience

- Communicated with key customers and stakeholders through dedicated account managers
- Provided tariff impact analysis information to large consumption customers; provided bill inserts and bill messages to SMEs; and developed FAQs which were uploaded to CLP website
- Conducted energy audits and provided power quality improvement services for commercial and industrial customers
- Provided energy saving solutions e.g. Meter Online, Energy Billboard
- Conducted the fifth GREEN<sup>PLUS</sup> Award programme with 47 winning businesses and organisations chosen from more than 6,000 applicants.

### Australia



- Billing accuracy
- Industry-wide difficulties in contracting gas post-2017 and contracting electricity in South Australia

- Launched various processes, data and system initiatives to improve billing accuracy and timelines
- Offered structured or shorter-term deals to key customers

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## CUSTOMERS (CON'T) 102-44

### India



- Enter into Corporate Power Purchase Agreement (PPA) arrangement with industrial and commercial consumer for renewable energy

- Completed market and regulatory due-diligence
- Building of team and governance processes related to this new customer segment are in progress
- Started marketing of these PPAs to many leading companies

### ELECTRICITY BOARDS AND GRID COMPANIES



#### REGION/ LEVEL

#### KEY CONCERNS OR INTERESTS IN 2016

#### SPECIFIC ACTIONS TAKEN BY CLP IN 2016

### Mainland China



- Ability to fulfil dispatch obligations and to meet off-take agreements
- Tariff competitiveness

- Communicated regularly with grid companies on generation plans and dispatch requirements
- Maintained tariff competitiveness through efficient operations

### India



- Management of existing PPAs

- Interacted periodically with these customers and relevant government authorities on operational, commercial and regulatory aspects / issues related to our PPAs

### Australia



- Network tariff reform for the electricity and mass market
- Opening up of metering competition

- Participated in regulatory and industry discussions with distributors and retailers; and began to increase engagement at the executive management level between EA and the distributors
- Launched Power of Choice projects to establish metering function



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## Hong Kong

### Responding to the need for reasonable electricity prices in Hong Kong

We understand customers' concerns about the need for reasonable electricity prices, and we have always emphasised prudent management of costs.

In 2016, our average tariff for typical residential customers in CLP's service areas was HK\$1.10/kWh, while the tariff for New York is double of Hong Kong. Cities with lower tariff than CLP are mostly characterised by: having government subsidies, being state-owned power companies, or having relatively abundant natural resources to support power generation.

Adjustment in total tariff in recent years has mainly been due to fluctuation of fuel costs. Globally, fuel prices have been highly volatile. In addition, in order to meet the increasingly tighter emissions caps set by the Government, we will need more natural gas. This costs more than other fuels, leading to further challenges in tariff management. CLP has taken actions to minimise the impact of significant fuel cost fluctuations and to maintain tariff at a reasonable level.

For 2017, we are able to freeze the Average Total Tariff at HK\$1.132 per unit of electricity and at the same time offer our customers special fuel rebates amounting to nearly HK\$800 million, or 2.3 cents per unit of electricity consumed in 2016.



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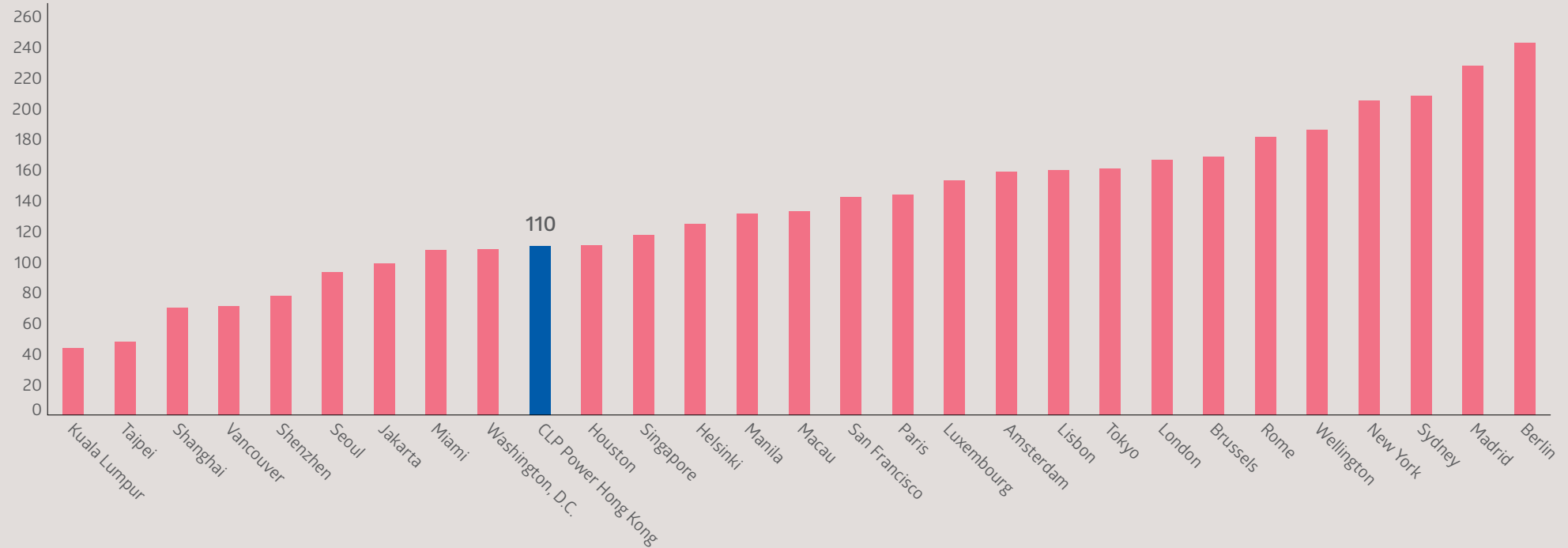
  

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## Hong Kong (Con't)

### Residential Tariff Comparison with Other Cities

Residential Tariff  
HK cents/kWh (as of January 2017)



Notes:  
1. Comparison based on average monthly domestic consumption of 275kWh.  
2. Tariff and exchange rate at January 2017.

Source : Web search

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## Customer Portfolio

Our home base Hong Kong is seen by some as a mature market, but we still see an increase in demand for electricity and its related delivery infrastructure. This is driven by a growing population and customer base, as well as major infrastructure developments such as the expanding MTR network, the high-speed rail link and the Hong Kong-Zhuhai-Macao Bridge.

Competition for customers in Australia remained intense in 2016, with discounts and rebates dominating the acquisition strategies of retailers. Despite this, EnergyAustralia maintained a stable number of customer accounts in 2016.

### Hong Kong

CLP Power Hong Kong is the sole electricity provider for Kowloon, the New Territories, and most of the outlying islands, serving 2.52 million customer accounts or about 80% of Hong Kong's population.

Our total electricity sales for 2016 were 34,442GWh, where 33,237GWh came from sales to our Hong Kong customers and 1,205GWh from sales to the Mainland. In Hong Kong, there was an increase in sales in the Residential, Commercial and Infrastructure & Public Services sectors in 2016, which offset the decrease in sales to our Manufacturing sector.

#### Hong Kong Customer Breakdown as of 31 December 2016

Commercial	201,582
Manufacturing	19,454
Residential	2,200,009
Infrastructure and Public Services	103,284
<b>Total</b>	<b>2,524,329</b>



### Australia

EnergyAustralia retails electricity and gas to customers in New South Wales, Victoria, South Australia, the Australian Capital Territory and Queensland (electricity only). EnergyAustralia is one of the around 30 retailers active in the key markets of New South Wales and Victoria.

As at 31 December 2016, EnergyAustralia had about 2.63 million customer accounts, comprising about 1.7 million electricity accounts and 860,171 gas accounts.

#### Australian Customer Accounts Breakdown as of 31 December 2016

Commercial and Industrial	15,238
Mass Market	2,609,954
<b>Total</b>	<b>2,625,192</b>



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## Customer Satisfaction 102-43

In order to gauge the performance of our retail businesses, we ask our customers how we are doing via customer satisfaction surveys that we conduct on a regular basis.

### Hong Kong

We measure customer satisfaction through an annual telephone interview survey conducted by an external marketing research consultant.

The customer satisfaction score is calculated considering overall satisfaction towards the utility and relative rating against an ideal utility in Hong Kong. The score is benchmarked against all public utilities in the energy sector and public service organisations (i.e. Hong Kong Post and the Water Supplies Department).

#### Hong Kong Customer Satisfaction Score

	2016	2015	2014	2013	2012
CLP	70	68	69	68	68
All Public Utilities in the Energy Sector	70	69	69	68	68
Public Service Organisations	70	69	70	69	70



### Australia

For the fourth year in a row, EnergyAustralia used a Strategic Net Promoter Score (NPS) approach to assess customer satisfaction.

In addition to the Strategic NPS tracking, which measures overall customer advocacy, in late 2015, EnergyAustralia launched a Transactional NPS tracking, which tracks customer satisfaction in relation to specific customer interactions (for example after a phone call with our contact center), which will help with identifying areas for improvement.

After baselining the NPS score in late 2015, we have been tracking performance throughout the year. Overall the score ended slightly higher at the end of the year from our baseline. We saw improvements in satisfaction in the first half of the year followed by declines in the second half of the year as customers were impacted by yearly re-prices, winter bills and service level challenges at our contact centres.

The planning for 2017 is to achieve significant improvements in transactional NPS by applying the learnings from this first year.



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## Customer Enquiries and Complaints

In addition to gauging the performance of our retail business based on satisfaction, we also assess our performance based on the number of customer enquiries and complaints.

### Hong Kong

We received two million customer enquiries and three justified cases of customer complaints in 2016. Customer enquiries are handled by our skilled and well-trained frontlines at the Customer Interaction Centre (CIC) and Customer Service Centres (CSC). The CIC provides one-stop shop customer services in order to maintain good customer relationships to help word-of-mouth promotion of CLP services. All enquiries will be resolved by the frontlines where possible. For unresolved issues, cases will be passed to the Customer Care team which is the centre of excellence for handling general customer complaints and specific enquiries regarding high consumption patterns.

CIC has an internal service pledge to follow up verbal complaints within 24 hours and to acknowledge written complaints within two working days. All escalated cases will be studied thoroughly and resolutions developed for the customers.

Furthermore, the Customer Consultative Group meets regularly to review customer written complaints and determine whether or not they are justified and adequately dealt with. The Group has 13 members who are experts representing a wide spectrum of customers and industries.





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## Customer Enquiries and Complaints (Con't)

### Australia

We continued to reduce calls taken in the past three years. Our year-end call contact rate is at 7.74% per 100 customers. “MyAccount” customers continued to grow and initiatives were in place to move traffic from traditional phone channels to self-service interactions and digital channels.

On complaints, we saw a 29% decrease in the total number of complaints received by EnergyAustralia, with a 34% decrease in Ombudsmen complaints and a 26% decrease in internal complaints. These positive results can be attributed to our focus on embracing our values, in particular ‘customers are our priority’ through driving a customer-centric culture; the introduction of NPS and the successful implementation of a new complaints operating model as part of our Strategy to Execution (S2E) initiative. Ombudsmen complaints per 10,000 customers has continued to improve, with a further reduction to 37 in 2016 (from 47 in 2015).

### Calls Handled by the EnergyAustralia Call Centre

2016	2015	2014	2013
2,590,868	2,843,495	3,372,654	5,526,103

### Complaints Received by EnergyAustralia

2016	2015	2014	2013
23,536	33,339	37,495	75,192



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## Customer Communications

We make a conscious effort to meet our customers' needs in attaining accessible and adequate information about the impacts of our products and services.

### Hong Kong

In our retail business, we provide customers with product and service information through a number of channels, including:

- Information on our customer websites;
- Notices on customers' bills;
- A brochure to new customers as part of their welcome pack;
- An electronic welcome pack to new customers through email;
- Information at our customer service centres;
- Advice provided by customer service professionals at our Customer Interaction Centre and Customer Service Centres; and
- Account Managers.

In addition, we communicate the carbon intensity of our electricity sold in Hong Kong on customers' bills and in our Sustainability Report. The carbon intensity of the electricity used by our customers in Hong Kong in 2016 was 0.54 kg CO<sub>2</sub>e/ kWh.

See more on the carbon intensity of our Hong Kong business in Natural Capital in this report.



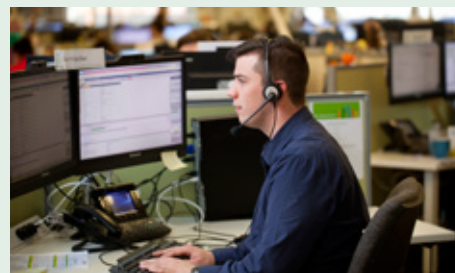
### Australia

Our objective is to enable our customers to be able to access information on our products and services in a timely and efficient manner and we continue to evolve our digital channels to allow them to do so.

Our customers can access the information through our regular customer communication channels, such as:

- The EnergyAustralia website;
- Customer correspondence such as Welcome Pack and Billing Information; and
- Call Centre staff and Account Managers.

We also communicate with customers via email and provide access for customer engagement via MyAccount and WebChat, enabling customers to communicate with us when and how they choose.




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## Customer Privacy

Under our Code of Conduct, every employee of the company must safeguard our assets and resources entrusted to our care, including customer information – from loss, theft or misuse. All employees must follow CLP procedures/practices and local regulations in relation to personal data privacy.

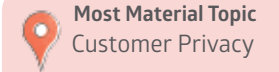
 See our Code of Conduct – Protecting our Information, Records and Assets” and “CLP Privacy Policy Principle.

We monitor and annually document any complaints related to breaches of customer privacy and loss of customer data.

In our Hong Kong retail business, no customer privacy and data loss cases have been reported or noted. Our EnergyAustralia retail business received a total of 120 privacy complaints relating to information being provided to unauthorised parties. EnergyAustralia has adequately dealt with the resolution of each complaint. Of the 120 privacy complaints, six were received from the Australian Privacy Commissioner regarding potential breaches of customer privacy. Following investigation of the complaints, however, the Commissioner closed all files on the basis that EnergyAustralia had not interfered with the customer’s privacy.

 See CLP Privacy Policy Principle.

Cyber security is a risk that may have a material impact on our Group and our customers including customer privacy. To manage this risk, we have implemented a cultural change programme to raise staff awareness on cyber security. We also utilise cyber protection technology to manage and monitor network perimeter defence, data loss, cyber-spoofing, distributed denial of service attack, mobile devices and suspicious cyber activities with control testing. In light of global incidents and attacks affecting the industry, we are committed to taking a future-looking approach and to continuously review and improve our performance.



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## Socioeconomic Compliance

Under our Value Framework and Code of Conduct, all employees must comply with all applicable laws and regulations, including health and safety, marketing, labelling, privacy and community matters.

In addition, under our Code of Conduct, all employees are obligated to protect the company's intellectual property rights, as well as complying with all applicable laws and regulations, including observing the intellectual property rights of our suppliers and vendors.

See our Code of Conduct – Protecting our Information, Records and Assets and CLP Privacy Policy Statement.

We report our legal non-compliances on an annual basis in our Sustainability Report. There was no reported incidence of non-compliance with regulations or voluntary codes with regard to health and safety impacts of our products and services during their life cycle in 2016.

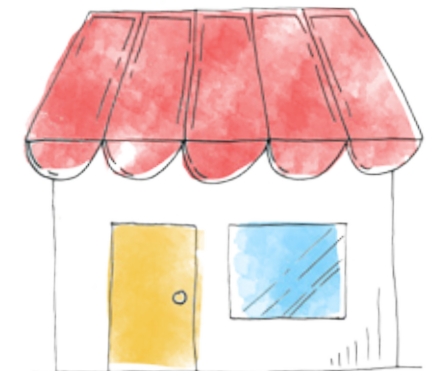
We also monitor and annually document any complaints related to breaches of customer privacy and loss of customer data. In 2016, no customer privacy or data loss cases were reported in our Hong Kong retail business. A small number of queries were received from the Australian Privacy Commissioner regarding potential breaches of customer privacy in EnergyAustralia's business; however following investigation, the Commissioner closed all files on the basis that EnergyAustralia had not interfered with the customer's privacy.

See CLP Privacy Policy Statement.

On product and service information and labelling, there was no breach of regulatory obligations and no fine for non-compliance relating to the provision and use of electricity in our Hong Kong business. EnergyAustralia reported some instances of non-compliance with information, contractual and billing requirements under the National Energy Retail Rules and the Victorian Energy Retail Code. These were reported as required under

the self-reporting regime that operates in Australia. We are taking action to prevent these breaches from reoccurring and to ensure customer satisfaction. Since 1 January 2016, the payment that energy retailers operating in Victoria must make to wrongfully disconnected customers has been doubled to A\$500 a day for each day that customers' supply is cut off. EnergyAustralia paid compensation of approximately A\$110,000 for wrongful disconnections.

**Most Material Topic**  
Socioeconomic Compliance



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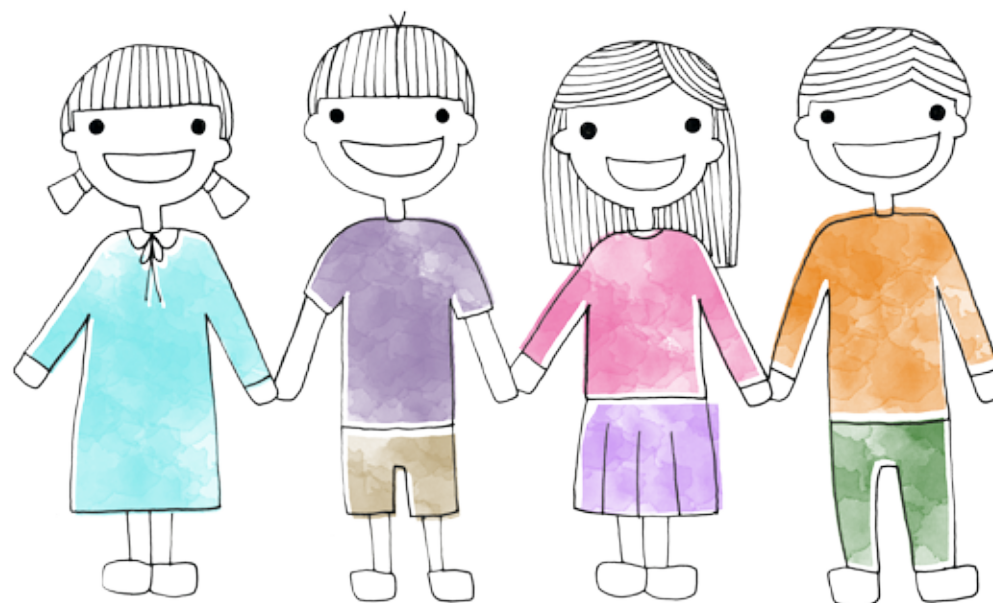
In wholesale markets, EnergyAustralia received two infringement notices of A\$20,000 under the National Electricity Rules in relation to failure to follow dispatch instructions on 13 January 2016. The regulator noted that EnergyAustralia cooperated fully with the investigation and that no further action will be taken.

Other than what is reported here and in the Customer Privacy section, there was no reported incidence of breaches of regulations and voluntary codes concerning marketing communication, including advertising, promotion and sponsorship.

The public can occasionally experience injuries in conjunction with our assets, and we do our best to ensure our assets are well protected and our businesses comply with high standards of safety, health and environmental performance. In 2016, there were no legal judgments, settlement cases or pending legal cases concerning diseases that were delivered against, reached with, or commenced against, the CLP Group.

## Rights of Indigenous People

CLP abides by established government regulations on provisions for people who are resettled by government for the purpose of building power stations. While resettlement and compensation are often undertaken by government entities, CLP assumes an active role in the stakeholder consultation process. On the rare occasion, where displacing or negatively impacting existing local communities or indigenous people is inevitable, we would take care to respect them and make every effort not to violate their rights. In 2016, CLP had no incidents of violations involving rights of indigenous people.





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## Managing our effects on community

Most markets have regulatory bodies which have formal grievance channels for specific issues, such as the local environmental protection department or agency for environmental-related issues or consumer or energy regulator for customer-related issues. We have a wide range of open/public engagement channels through which we can receive any concerns, interests or feedback at any time during the year. General complaints against the company are typically handled by our Public Affairs team who work with the relevant colleagues to resolve the issue at hand.

All our power plants have a potential to impact local communities, in both positive and negative ways. We try to mitigate any concerns through the following measures:

- Communicating with local governments to explain the nature of the project before construction starts and obtain their help in liaising with the local community;
- Following all applicable laws and regulations regarding land acquisition and environmental impact;
- Providing employment opportunities where possible;
- Contributing to local services such as schools or hospitals; and
- Offering to receive local people and school children at the plant and explain what we do.



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## ACCESS TO ELECTRICITY

Electricity is an essential service and we work hard to ensure all members of our community can access our products and services. We have services in place that ensure most challenges including language, culture, literacy or disability do not prevent people from accessing and using our products. In both our Hong Kong and Australian retail businesses, we avoid disconnection of our accounts and try to work out special arrangements for non-payments.

### Hong Kong

Our customers can communicate with us in three different languages: Cantonese, English and Putonghua. We provide a number of new customer caring services, including:

- WeChat service – to hearing-impaired customers; and
- Braille bill and Accessible Green Bill (voice-over) – to enable visually impaired customers to understand their electricity bill statements in a more convenient manner.

In our Hong Kong retail business, we have special arrangements for non-payment customers including programmes to help customers who might be at risk of supply disconnection. Payment deferral or interest free payment by instalment is offered for demonstrated cases of hardship.

### Total number of disconnections for our Hong Kong Retail Business

	2016	2015
0-2 days	8,545	8,128
3-7 days	359	313
8-31 days	190	1,748
≥32 days	9	8
<b>Total</b>	<b>9,103</b>	<b>10,197</b>



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## ACCESS TO ELECTRICITY (CON'T)

### Australia

In 2016, we continued to provide the following services in Australia:

- Interpreter services for those who have a first language other than English;
- Telephone Typing Services (TTS) machine for the hearing impaired; and
- For the vision impaired, we have a number of services, such as Braille billing and large format bill print.

Information on these services is easily accessible on the EnergyAustralia website and on customers' bills.

We help our customers in financial hardship in a number of ways, including payment plans, matching payment opportunities, debt waivers and other initiatives.

In 2016, we launched the Financial Inclusion Action Plan (FIAP), which set out a programme of actions aimed at helping people achieve financial security and independence. This includes improving all our employees understanding of why and how customers face financial exclusion, particularly groups over-represented in hardship statistics, to help them better support these customers.

See EnergyAustralia's FIAP



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## DEMAND-SIDE MANAGEMENT

Under our Value Framework, we have published a Customer Service Quality Policy Statement, which states that we must support our customers to use our products and services efficiently and effectively. Energy management offers mutual benefits to our customers and our business. The more that demand can be reduced, the more the bills can be reduced and new investments deferred. We have been offering demand response programmes for our customers to reduce peak demand, achieving environmental and economic benefits.

In Hong Kong, under the Scheme of Control we are incentivised with an extra 0.01% return on our fixed assets if we meet the energy efficiency and conservation target of achieving no less than 150 energy audits for commercial and industrial customers and saving at least 12GWh of electricity consumption per year.



**Most Material Topic**  
Demand-side Management

### Hong Kong

In Hong Kong, we continue to roll out programmes to help our customers identify energy saving opportunities and better manage their electricity usage. Our efforts focus on the promotion of energy efficiency and conservation (EE&C) through the following green tools:

#### EE&C Support for Customers

- Conducted 160 free energy audits for our commercial and industrial customers, and helped save 15.8GWh of electricity.
- Launched the “Supporting SME with 6 Energy-Saving Rewards” campaign to help small and medium businesses to manage electricity usage.

#### Eco Power 360

- Launched the enhanced online home energy assessment platform to encourage our residential customers to use energy wisely.

#### Meter Online

- Developed an innovative energy management tool that provides a nine-day energy forecast based on weather information to help our commercial and industrial customers predict and better manage their electricity consumption.



#### Eco Building Fund

- Provided subsidies to residential building owners to enhance the energy efficiency of the communal areas of their buildings.
- Approved 83 applications, for total funds reaching HK\$36.4 million.



See Community & Environment

## Australia

In Australia, our customers have access to a range of complimentary services, which include advice and tools to help our customers better manage their energy consumption.

### Energy Saving Tools

- Customers can assess the energy usage and appliance saving in their home and check out our bill reduction checklist for ways to cut electricity and gas costs.

### Energy Saving Tips

- Customers can learn how to save energy and reduce bills in their home by selecting a room and taking a walk-through to discover how they can reduce their impact on the environment, and their budget.

### The Hub

- The Hub is the home of all things energy related – from helpful tips for moving house to the latest on sustainable technologies and what's happening in the EnergyAustralia community.



See Energy saving & safety



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## EMPLOYEES 102-44

Our core requirement is to ensure that we attract, retain and deploy employees with the capabilities needed for our business. In particular, we need to retain and maintain our excellence in engineering. Understanding our employees' needs, we have been working on gender diversity, competitive benefits, organisational agility and cultivating a safety first culture.



REGION/ LEVEL	KEY CONCERNS OR INTERESTS IN 2016	SPECIFIC ACTIONS TAKEN BY CLP IN 2016
Group Level or General	<ul style="list-style-type: none"> <li>• Remuneration and benefits</li> <li>• Career development opportunities</li> <li>• Gender diversity and equal opportunity</li> <li>• Compliance with Health, Safety, Security and Environment (HSSE) standards</li> </ul>	<ul style="list-style-type: none"> <li>• Conducted regular independent review of market remuneration surveys and benefits, and review of family-friendly policies and practices</li> <li>• Enhanced the sustainability of pension fund</li> <li>• Conducted regular review of succession planning; optimised internal promotion; continued investment in training and development; and arranged staff rotation</li> <li>• Continued female mentoring programme with universities; organised group-wide network for female engineers</li> <li>• Increased maternity leave and paternity leave in Hong Kong</li> <li>• Implemented Health, Safety, Security and Environment (HSSE) management system standard and critical risk standard across the Group</li> </ul>

See Human Capital in this report.





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## SUPPLIERS AND CONTRACTORS 102-44

Our suppliers and contractors enable us to maintain and develop our electricity supply business to meet our customers' needs in a responsible manner. We work with those who share our vision and seek to maintain relationships that are mutually beneficial.



REGION/ LEVEL	KEY CONCERNS OR INTERESTS IN 2016	SPECIFIC ACTIONS TAKEN BY CLP IN 2016
Group Level or General	<ul style="list-style-type: none"> <li>Responsible procurement practices and supply chain management</li> <li>Demonstration of CLP's commitments to continuous improvement and adoption of best practices</li> </ul>	<ul style="list-style-type: none"> <li>Continued to consider elements of Responsible Procurement Policy Statement (RePPS) in supplier/contractor selection process</li> </ul>
Mainland China	<ul style="list-style-type: none"> <li>Compliance with Health, Safety, Security and Environment (HSSE) standards of construction projects</li> </ul>	<ul style="list-style-type: none"> <li>Conducted behaviour-based safety training / HSSE inspections for contractors in the construction of Fangchenggang II coal, Sandu I wind, Laizhou I wind and Laiwu II wind assets in Mainland China</li> </ul>

 Read more about our procurement practices in Manufactured Capital in this report.

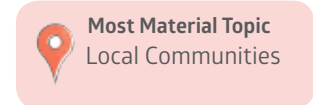


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## COMMUNITIES, NGOS AND MEDIA 102-44



The community is playing an increasingly influential role in the continuity of our business. The ability to earn and maintain the acceptance and trust from our communities is vital to our business success. To strengthen our social licence to do business, we engage and enhance the well-being of the communities in which we operate.



REGION/ LEVEL	KEY CONCERNS OR INTERESTS IN 2016	SPECIFIC ACTIONS TAKEN BY CLP IN 2016
<b>Hong Kong</b> 	<ul style="list-style-type: none"> <li>• Future fuel mix to address climate change and air quality</li> <li>• Construction work affecting the community</li> <li>• Additional generation capacity</li> <li>• Livelihood issues</li> </ul>	<ul style="list-style-type: none"> <li>• Issued media releases and conducted media briefings</li> <li>• Engaged and informed community stakeholders through briefings, collateral and site visits to CLP's facilities</li> <li>• Conducted discussion workshops to consider and review ways in which CLP can continuously improve its efforts in enhancing supply reliability, cost control and environmental performance</li> <li>• Conducted meetings with local community leaders such as district councillors as well as CLP's Local Customer Advisory Committees and Customer Consultative Group</li> </ul>
<b>Australia</b> 	<ul style="list-style-type: none"> <li>• Customers' capacity to pay energy bills</li> <li>• EA in the Top 10 polluters / "Dirty Three"</li> <li>• Community engagement and communication</li> <li>• Longevity of power generator sites</li> </ul>	<ul style="list-style-type: none"> <li>• Continued strategic engagement with Social Service groups to better inform our hardship programme</li> <li>• Continued dialogue with green groups to communicate EA's approach of environmental management</li> <li>• Delivered community grant programme in all communities Energy Australia power generator sites are located in</li> <li>• Conducted community perceptions research in communities near Mount Piper power station</li> <li>• Held regular Community Liaison Group meetings</li> <li>• Proactively engaged with media</li> </ul>

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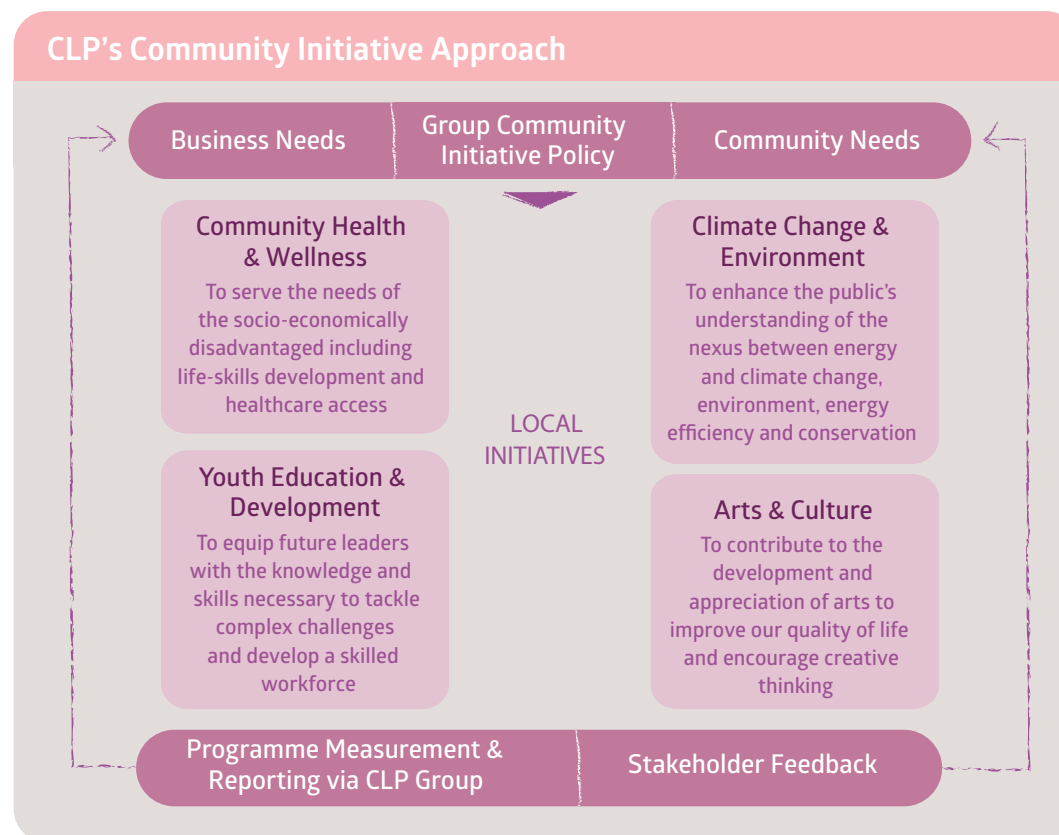
## OUR APPROACH TO COMMUNITY INVESTMENT

We strive to build and maintain the trust of the communities that we provide power to and operate in, so that we can continue to contribute to their development into healthy, resilient and sustainable communities.

Over the years, we have developed and invested in a wide range of initiatives to serve our communities. Our community initiatives focus on four pillars: Climate Change and the Environment; Youth Education and Development; Community Health and Wellness; and Arts and Culture.

We conduct surveys to help us understand how well our engagement and social investment activities align with our communities' expectations. In Hong Kong, we conduct a public perception survey every year to understand the public's view on various aspects of the electricity industry as well as the performance of CLP Power Hong Kong.

Similarly, since 2014, EnergyAustralia has undertaken community perception surveys to better understand the needs and interests of local stakeholders and communities in which we operate.



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As enshrined in CLP's Value Framework, CLP Cares for the Community and commits to making significant contributions to programmes that have a positive impact on community development for the short and long term. In line with the Group's policies on community engagement, we aim to:

- Support projects or programmes that reflect the needs and expectations of local communities and are sensitive to prevailing cultures, traditions and values;
- Provide support to projects or programmes that are systematically managed with clearly-identified objectives and expected outcomes;
- Engage in long-term partnerships with credible international, national, regional and local community organisations, non-governmental organisations and charities;
- Focus our support on projects or programmes that offer the opportunity for our employees to be involved in the activities; and
- Evaluate regularly, our contributions as well as the outcomes and impacts that have been achieved.



 See CLP Group Community Investment, Sponsorship and Donation Policy

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## RESOURCES CONTRIBUTED

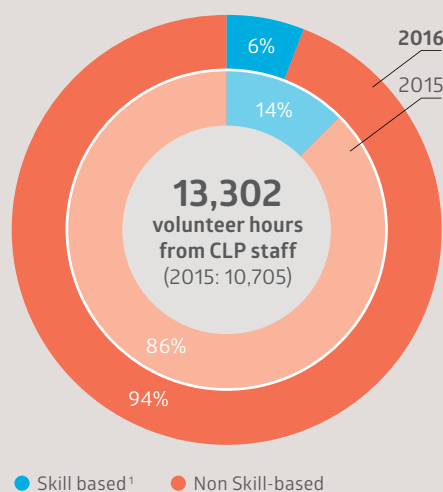
As different communities have different needs, our business units in the different countries are given the flexibility to prioritise and address the specific needs and sensitivity of the existing cultures, traditions and values of the local communities. Our local teams, who have the best knowledge of local priorities, are able to work with local governments and organisations to provide solutions that best match their needs. In 2016, we implemented community initiatives in 100% of the regions in which we operate.

In 2016, we initiated, sponsored or donated to 574 programmes for the four pillars. We invested both money and time into our community.

Similar to last year, our 2016 spending was focused on two pillars: Climate Change & the Environment (39%) and Community Health & Wellness (32%). On spending by region, India's notable increase in spending (13% in 2016 versus 2% in 2015) was mainly attributed by investing in new community infrastructure projects including construction of a hospital

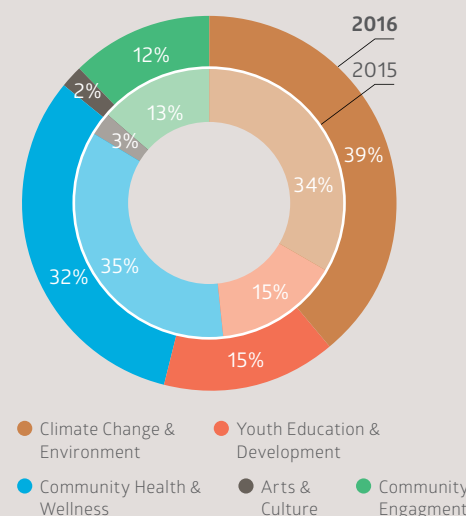
near our Jhajjar plant. The amount we donated for charitable and other purposes was HK\$12.65 million, decreasing by 13% from that in 2015. The decrease is within the normal annual fluctuations resulting from ad hoc programmes in one year not happening in the next, as well as potential changes in timing and involvement in the programmes from one year to the next.

## Contributing our Time and Expertise

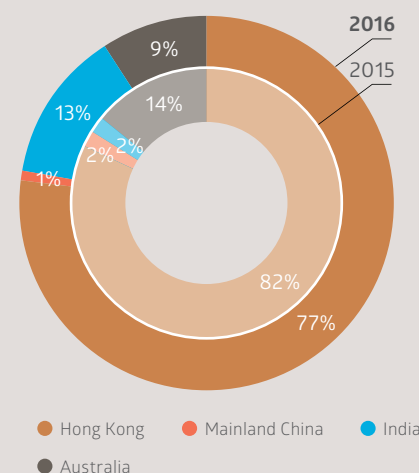


## Our Community Spending

Community Spending by Theme



Community Spending by Region



### Notes:

- Figures include rounding adjustments.
- Reporting scope is adjusted to exclude Southeast Asia & Taiwan due to minority interests and include Eco Building Fund, resulting in restated 2015 figures.

## Amount Donated for Charitable and Other Purposes (excludes in-kind donations)



HK\$12.65 million  
in 2016



HK\$14.52 million  
in 2015



HK\$12.02 million  
in 2014



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## OUR IMPACTS

We create positive indirect economic impact on the society as many of our programmes are geared towards education, better health care and quality of life improvement in rural areas, all of which are known to contribute indirectly to economic improvement.

As a result of the resources contributed, we directly benefitted more than 359,000 people in 2016 versus over 176,000 people in 2015. This was due mainly to a one-off launch of the POWER YOU Kindergarten Education Kit which was distributed to all kindergartens in Hong Kong.

See our education initiatives in this report.

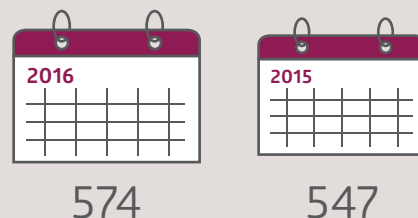
To better evaluate the social impact of our community initiatives, we have commissioned a benchmarking study of different socio-economic impact measurement tools so that we can identify the most suitable

means to evaluate the effectiveness of our contribution in the community and make recommendations for the next step.

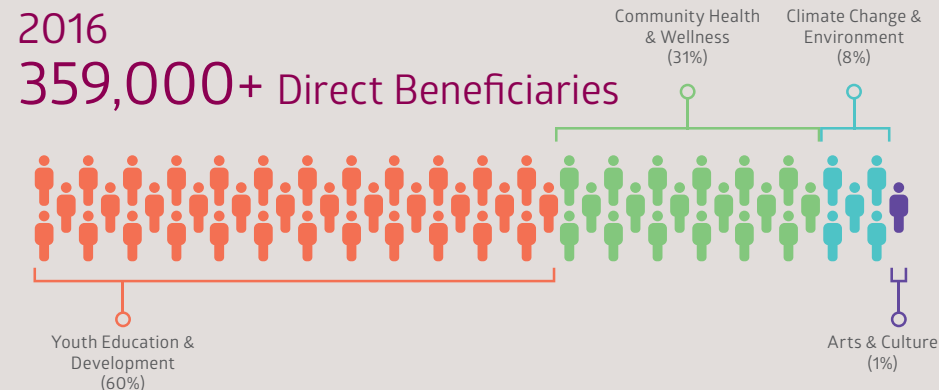
Furthermore, a standardised online reporting system was launched in the fourth quarter of 2016 to improve the integrity of our community-related data across the Group. The establishment of the system has also enhanced the overall effectiveness and efficiency in reviewing and reporting our community initiatives.

See a description of the reporting system of community data in the Appendix in this report.

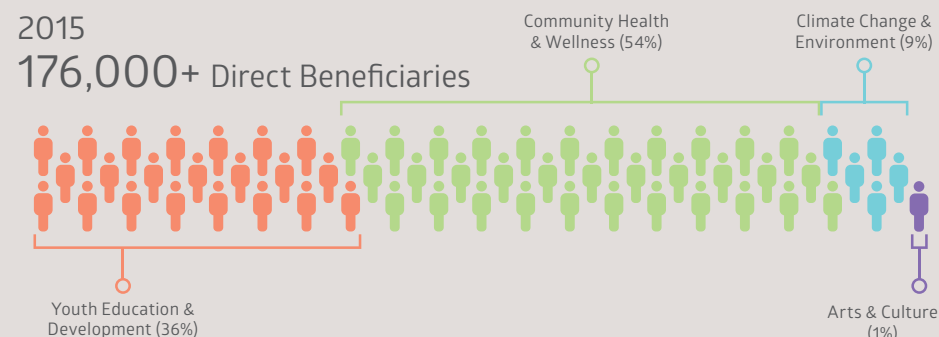
## Programmes Implemented



## Our Beneficiaries<sup>1,2</sup>



**373** organisations<sup>3</sup> directly benefitted



**369** organisations<sup>3</sup>

Notes:

- Figures include rounding adjustments.
- Reporting scope is adjusted to exclude Southeast Asia & Taiwan due to minority interests and include Eco Building Fund, resulting in restated 2015 figures.
- Benefitted including professional bodies, academic institutes, NGOs and community groups

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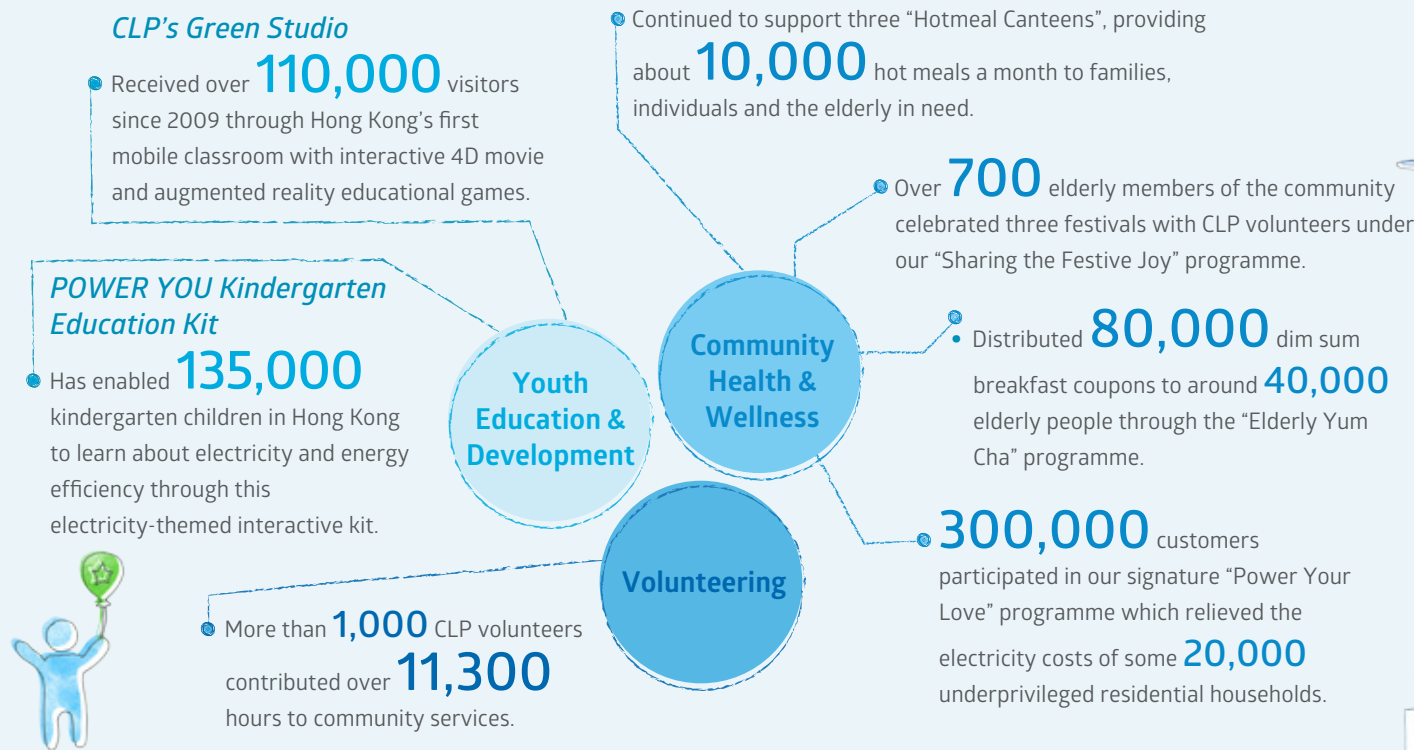
  

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## Hong Kong

The success of our business is closely aligned with the well-being of the communities we serve. In Hong Kong, we work closely with local non-governmental organisations and community groups to identify the society's evolving needs and develop programmes that can help meet those needs. Helping the disadvantaged is one of our main focus areas and in recognition of our efforts in 2016, CLP received the Outstanding Contribution Award from the Social Welfare Department for our support to its Partnership Fund for the Disadvantaged.

During the year, we initiated and supported 447 community projects in Hong Kong. Some of the key projects are highlighted below:



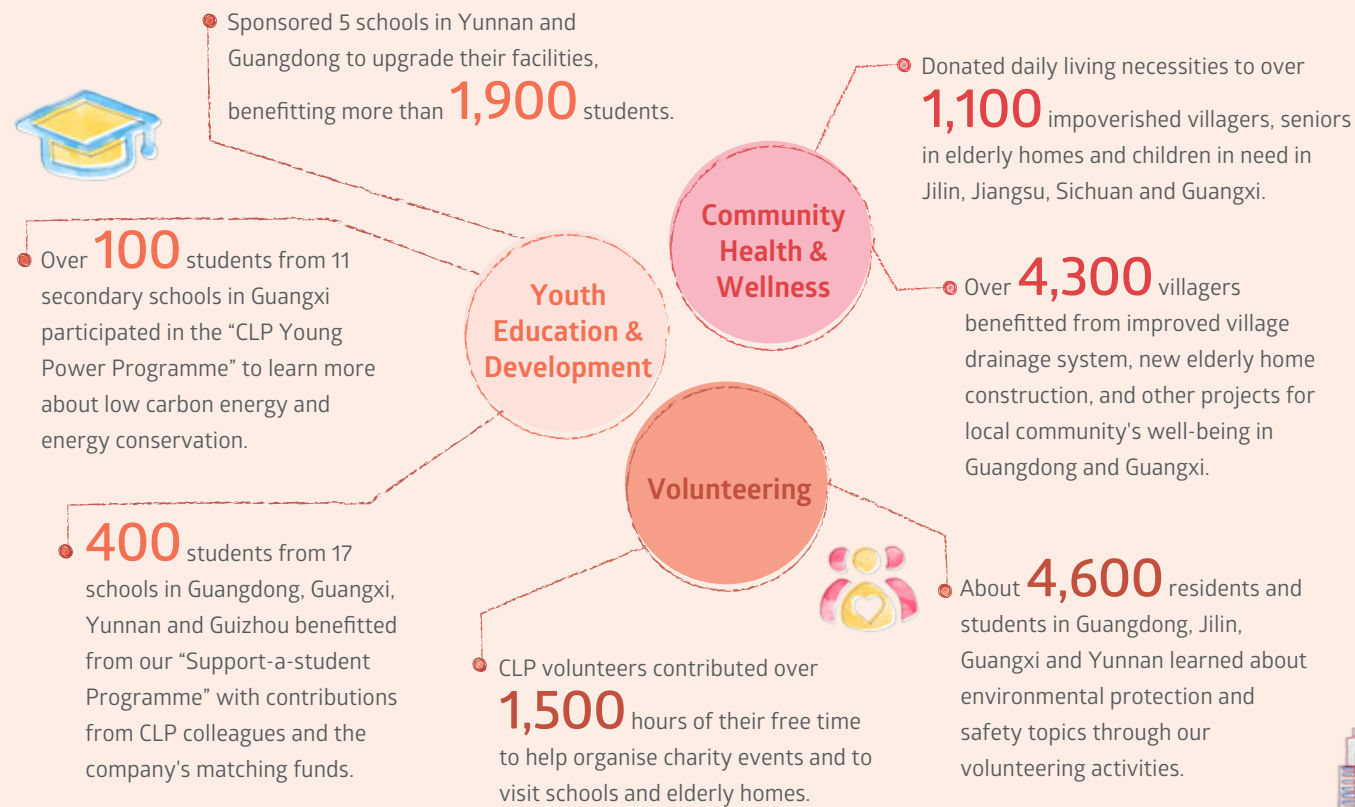
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## Mainland China

The establishment and upkeep of community relations is an important part of our stakeholder engagement efforts in Mainland China. In 2016, we continued to focus our community initiatives on education and community well-being and launched a number of pioneering activities.



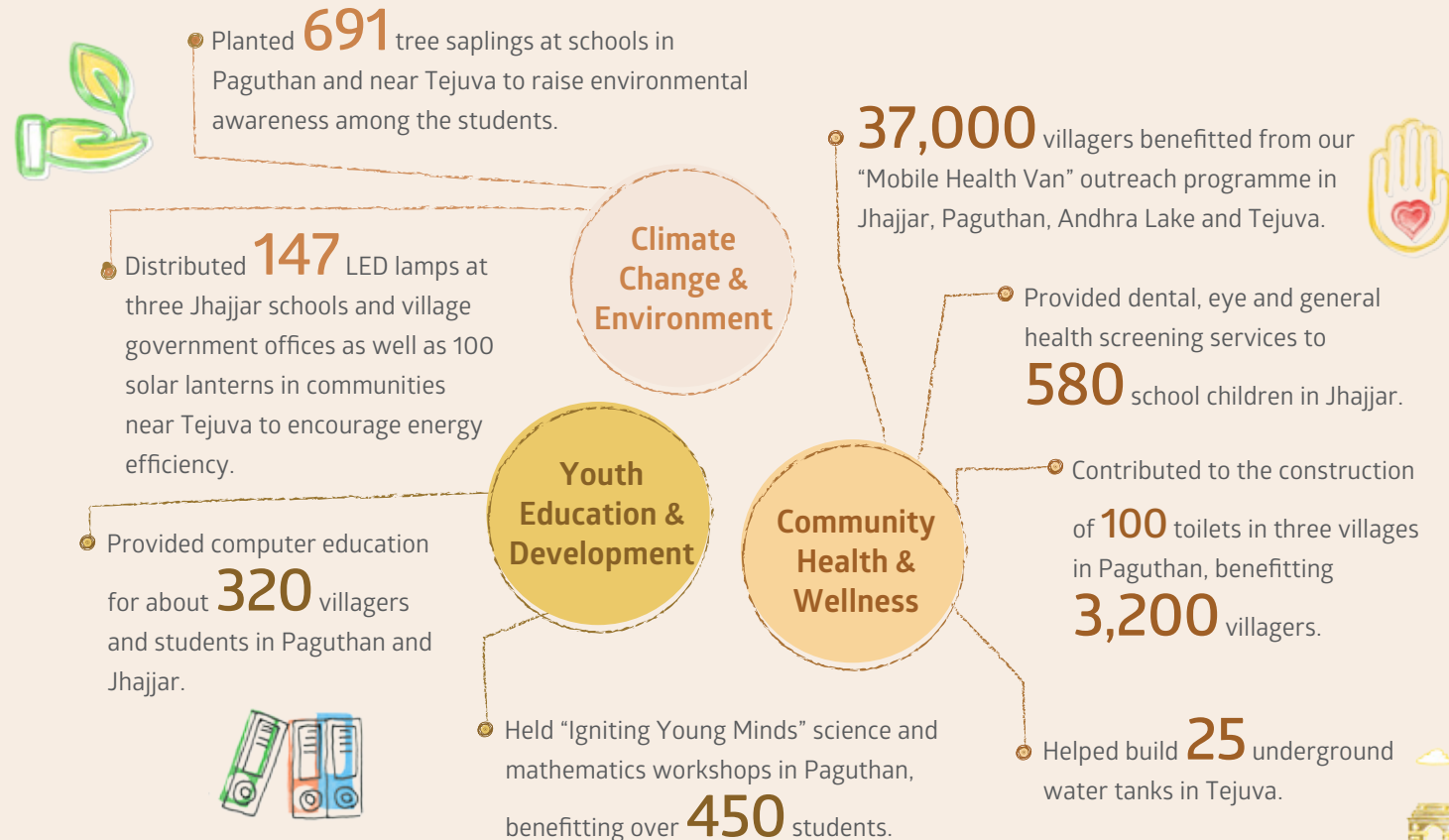
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## India

Our key community initiatives in India focused on primary healthcare, youth education and skills development, community infrastructural support and empowering women. In 2016, we reinforced and scaled-up existing community initiatives at Paguthan and Jhajjar and we have made a good start with our renewable operations. In addition, the construction of a 50-bed secondary care hospital near our Jhajjar plant is close to completion. We plan to donate it to the Haryana State Government for the community's use once it is completed.



## Water ATMs

We stepped-up our efforts to make clean water readily available to the communities in which we operate through providing "Water ATMs" to the villages around our assets. These water vending machines make use of Reverse Osmosis, a water purification technology, to reduce the total dissolved solids in the ground water to a level that is potable. Two such "Water ATMs" have been inaugurated in recent months, in Paguthan & Kothi villages in the state of Gujarat. We plan to roll these out progressively to cover more communities near our assets in 2017.



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## Australia

EnergyAustralia engages external stakeholders to help us understand and address issues of importance to them. Two key developments from this work in 2016 are the Reconciliation Action Plan (RAP) and Financial Inclusion Action Plan (FIAP). In addition, we continued to carry out a range of other community initiatives as highlighted below.

- EnergyAustralia introduced its first Reconciliation Action Plan (RAP) in 2016, setting out the steps to increase our engagement with the Aboriginal and Torres Strait Islander peoples. **8** RAP launches were held across our sites with a total attendance of approximately **400** staff.

### Volunteering

- Through our volunteering programme with Foodbank Victoria, we helped pack **84** tonnes of food, or about **151,200** meals, that were distributed to Victorians in need.



### Community Health & Wellness

- EnergyAustralia was the **1<sup>st</sup>** energy company in Australia to participate in the government-funded Financial Inclusion Action Plan (FIAP) programme. We launched our own FIAP in 2016 in order to help our more vulnerable customers achieve financial security and independence.



- Our community fund programme donated **A\$170,000** across **7** sites to support projects and initiatives that provided positive social benefits.

- Over **170** employees participated in almost **900** hours of volunteering.



- 1,500** people attended our Yallourn site's open day and **120** people attended our mine rehabilitation information sessions.





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## ACADEMIA AND SCHOOLS 102-44

Investing in education is in line with our interest – equipping our next generation with the knowledge and skills necessary to understand the complexity of the energy business. Education is a local issue, hence we work with local education systems and partners to strategically utilise our resources.



REGION/ LEVEL	KEY CONCERNS OR INTERESTS IN 2016	SPECIFIC ACTIONS TAKEN BY CLP IN 2016
<b>Hong Kong</b> 	<ul style="list-style-type: none"> <li>Development of future regulatory framework</li> <li>Energy security and future fuel cost</li> <li>Proposed additional gas-fired generation capacity in response to government's fuel mix target in 2020</li> <li>Energy efficiency and conservation</li> <li>Career development in engineering</li> <li>Development of STEM education</li> </ul>	<ul style="list-style-type: none"> <li>Engaged and informed key stakeholders through background briefings and site visits to CLP's facilities</li> <li>Collaborated with NGOs and professional bodies in public education programmes and conducted school talks for primary, secondary and university students</li> <li>Launched educational programmes: Engineer in School targeted at secondary school students; and POWER YOU Kindergarten Education Kit targeted at kindergarten students</li> </ul>
<b>Mainland China</b> 	<ul style="list-style-type: none"> <li>Energy conservation and Mainland China's climate change commitment</li> <li>Improvement in education facilities</li> <li>Poverty relief for students</li> <li>Career development in engineering and management</li> </ul>	<ul style="list-style-type: none"> <li>Provided training to students through the CLP Young Power Programme</li> <li>Sponsored schools to upgrade their facilities</li> <li>Made donations to students through the Support-a-student Programme</li> <li>Recruited Graduate Trainees from various colleges</li> </ul>
<b>India</b> 	<ul style="list-style-type: none"> <li>Improvement in access and quality education for communities around our facilities</li> </ul>	<ul style="list-style-type: none"> <li>Strengthened infrastructure of local school</li> <li>Supported student from economically disadvantaged families with scholarship/ books</li> <li>Provided coaching on subjects like science and mathematics</li> </ul>
<b>Australia</b> 	<ul style="list-style-type: none"> <li>Concerns about the electricity generator industry in their community.</li> <li>Career development of students in the changing local job market</li> </ul>	<ul style="list-style-type: none"> <li>Informed key community stakeholders through regular community liaison meetings.</li> <li>Social Investment programme's community grants and partnerships have a focus on education and social inclusion</li> </ul>



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## Our Focus on Education

In recent years, the number of students pursuing a career in science, technology, engineering and mathematics has dwindled globally. This has in turn affected the pool of potential engineers and technicians on which CLP relies to fulfil its mission. In this light, we have been encouraging young people to consider an exciting career in the power and engineering industries through various initiatives.

### Building Awareness for Energy Efficiency

#### *POWER YOU Kindergarten Education Kit*

In Hong Kong, we developed an innovative electricity-themed education kit with story books, finger puppets, a board game and worksheets. It is available to all kindergartens free of charge. This initiative has the dual aim of teaching children about energy production, while promoting energy efficiency. The kit has been used by over three-quarters of the kindergartens in Hong Kong, benefitting more than 135,000 students.



#### *Green Elites Campus Accreditation Programme*

At the primary school level, CLP Power Hong Kong continued to organise school visits, support reducing food waste, conduct energy audits, and host a variety of learning programmes. We have awarded 22 primary schools the Green Elites Campus accreditation since the programme's inception in the 2014/15 academic year, in recognition of their efforts in promoting environmental protection through educational activities.

#### *CLP Young Power Programme*

To further enhance environmental awareness among secondary school students in Mainland China, we continued our signature CLP Young Power Programme in 2016. Some 150 high school students from Nanning in Guangxi and Hong Kong took part in learning tours and seminars, and became our young energy ambassadors. We also contributed to the community by offering grants to schools near our assets to improve school facilities.



Our education activities address SDG #4: ensure inclusive and equitable quality education and promote life-long learning opportunities for all

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## Promoting Engineering Careers

### *The Engineer in School Programme*

This programme provides secondary school students with a better understanding of Hong Kong's energy industry and the power supply system in particular. It also educates them on the importance of environmental protection and energy conservation through job shadowing, day camps and school talks.

In 2016, the programme reached out to about 3,000 students in 14 secondary schools. More than 100 teachers and students participated in the first Energy Day Camp in December. The programme will continue in 2017.

### *Social Investment in Education*

In Australia, we encouraged more women and girls to study to become engineers through collaborating with non-profit Power of Engineering. It came after the newly-established Social Investment Committee of EnergyAustralia chose to champion the themes of education and social inclusion.

In addition to financial assistance, EnergyAustralia provided support in-kind including media advice to promote related events and staff to host workshops aimed at encouraging female high school students to consider engineering careers.

In 2017, the social investment themes of education and social inclusion will be incorporated into our community grants programme to ensure consistency across our entire community engagement programme.

## Strengthening Collaboration with Universities and Professional Bodies

### *Professorship*

As the leading energy provider in the Asia-Pacific region, CLP established a professorship in sustainability at the Hong Kong University of Science and Technology – the first of its kind at a local university. The professorship, which focuses on climate change and sustainable energy, will serve to nurture skilled and innovative talents for Hong Kong and CLP.

### *Low Carbon Energy Education Centre*

We are sponsoring City University of Hong Kong to establish a low carbon energy education centre on campus to present the challenges posed by climate change and demonstrate the importance of low carbon energy sources in an interactive manner. The opening of the centre is scheduled for the first half of 2017 and guided tours will be offered to the general public.

### *Professional Workshops and Symposiums*

In November, the CLP Research Institute co-hosted an international workshop with International Electric Research Exchange to discuss how technologies, Big Data, and their intelligent applications can enhance people's lives in smart cities.

CLP Power Hong Kong also hosted the fourth Green Building Symposium in Hong Kong, where over 300 executives were introduced to some of the latest energy saving technologies and solutions that suit business needs.



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## MOST MATERIAL TOPICS

INTERVIEW WITH THE CFO

ECONOMIC VALUE GENERATED AND DISTRIBUTED

MARKET REGULATION AND PLANNING

FINANCIAL PERFORMANCE

Our funding resources are fundamental to our capability in creating value for our shareholders, lenders and the broader stakeholders.

For 2016, the following most material topic relevant to this chapter was identified:

### *Economic Performance*

We continued to generate economic value, to spread through the society, contributing to the economic health of our stakeholders.



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MOST MATERIAL TOPICS

INTERVIEW WITH THE CFO

ECONOMIC VALUE GENERATED AND DISTRIBUTED

MARKET REGULATION AND PLANNING

FINANCIAL PERFORMANCE

## INTERVIEW WITH THE CHIEF FINANCIAL OFFICER

### ? What were the highlights for you in 2016?

Our purpose is to deliver power in a socially and environmentally responsible fashion, while making sure we continue to be economically supportive and sustainable. So each year that we deliver on the Trilemma, of providing energy that is safe, secure and reliable, environmentally responsible and affordable, while paying interest and dividends, we have a sense of 'mission accomplished'.

In 2016, despite the difficult environment for power companies in Mainland China, no increase in Hong Kong tariffs and a very competitive environment in Australia, earnings across the CLP group in aggregate increased moderately and so did the dividend. We kept a fair balance between distribution and reinvestment. In Hong Kong, we continued to improve our environmental performance and launched investment in a new combined-cycle gas turbine (CCGT) generation unit. We also continued to make strides in non-fossil generation, with renewables in Mainland China and Australia, as well as nuclear in Mainland China.

### ? What were the key challenges in 2016?

Mainland China's fight against climate change and air pollution has led to lower utilisation of coal plants, which is good for the environment and public health, but has affected profitability of part of the portfolio. In Australia, we are faced with multiple regulators whose policy objectives may vary from region to region and have often varied over time. The fact that there have been a number of blackouts in South Australia in recent months illustrates that the risks of imbalance of the Trilemma are real.

Fortunately, Mainland China's low carbon anti-pollution movement is partially addressed by the increase in renewables and nuclear power. CLP has been an early adopter of these technologies in Mainland China. In Australia, we worked very hard to keep our low-cost power plants available and producing, but we also signed off contracts in support of new renewable energy projects thus contributing to a "sensibly managed energy transition". Delivery on our customer promise and experience improved significantly as externally validated by several industry awards.

### ? What keeps you awake at night?

The possibility that Mainland China may not put the brakes firmly enough to the still ongoing development of new coal-fired power plants thus delaying energy transition and causing over capacity. The possibility that Australia's energy transition does not proceed in a way that maintains an appropriate balance between the demands of the Trilemma, such that customers' expectations of affordability and reliability are met. The possibility that Hong Kong may lose appreciation for the reliability part of the Trilemma, particularly for reliability, which is taken for granted. In Hong Kong we increasingly depend on one type of primary energy, in this case natural gas, and so we become more vulnerable to energy security and pricing issues.

### ? How can we prepare for the future?

The best way I can see is by keeping our focus on our mission to solve the energy Trilemma.

In particular for Mainland China, focusing on the environmental "leg", we will see a faster change in our portfolio — by 2017, only about 25% of earnings will come from fossil fuel generation.

In Australia, our primary focus is on the reliability and affordability aspect of the Trilemma, whilst contributing to a hopefully more coherent nationwide energy transition.

Finally in Hong Kong, our primary focus will be on delivering on our commitment to civil society to replace coal with gas as the primary fuel come 2020, and to do this without compromising on reliability whilst trying to mitigate the economic consequences for customers and shareholders.




Geert Peeters  
Chief Financial Officer of CLP Group

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MOST MATERIAL TOPICS | INTERVIEW WITH THE CFO | **ECONOMIC VALUE GENERATED AND DISTRIBUTED** | MARKET REGULATION AND PLANNING | FINANCIAL PERFORMANCE

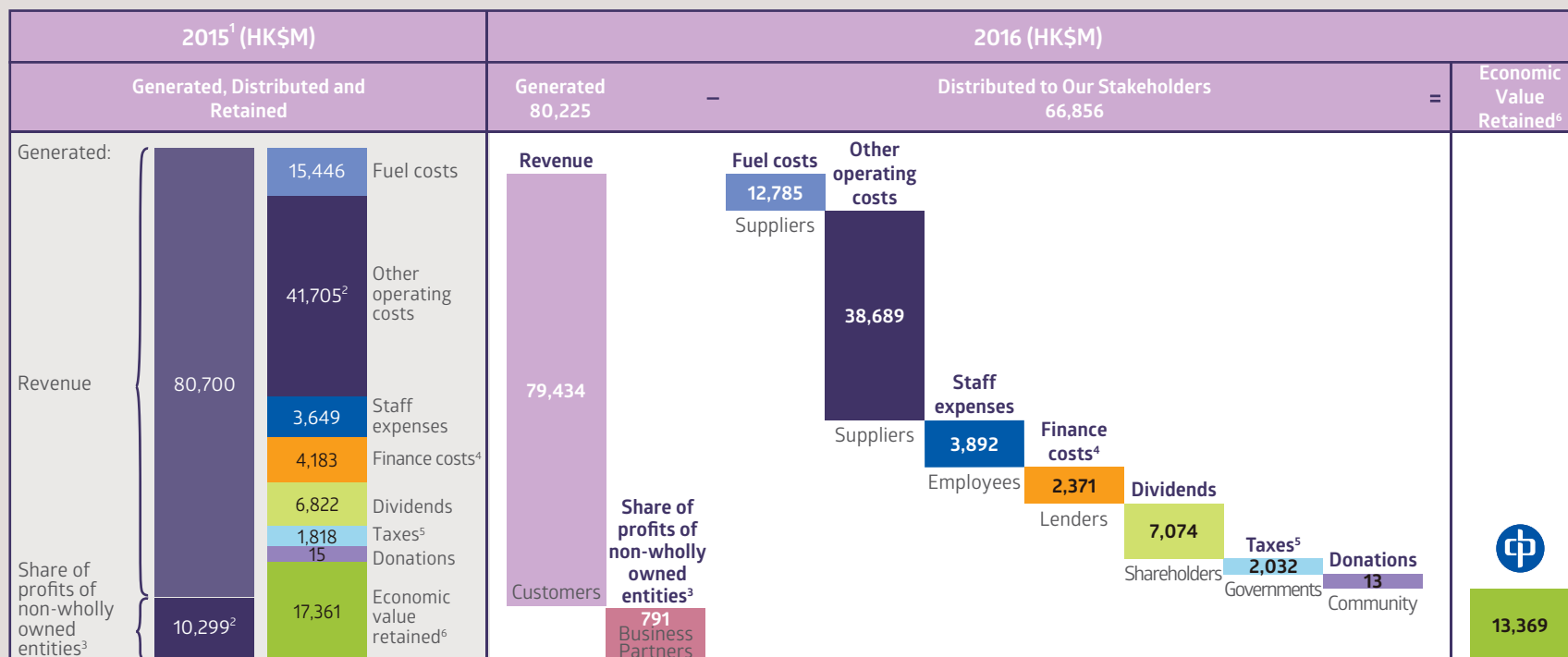
## ECONOMIC VALUE GENERATED AND DISTRIBUTED

We create value not only for our shareholders, but also for our other stakeholders –83% of our economic value generated was redistributed back to our stakeholders in 2016. The indirect economic value that we create is an important part of what makes our business sustainable.

 **Most Material Topic**  
Economic  
Performance

### Economic Value Generated, Distributed and Retained

CLP generates revenue by selling electricity and gas to our customers. Costs are paid to our various stakeholders – suppliers and contractors, employees, capital providers, governments and the community. Economic value retained is funds kept in the company to preserve operating capacity and to fund new investments.



Notes: **102-48**

1. Comparative figures have been restated for the adoption of HKFRS 9 on hedge accounting
2. Comparative figures have been restated to conform with current year's presentation
3. Represents share of results (net of income tax) from joint ventures and associates netted with earnings attributable to other non-controlling interests and includes gain on sale/purchase of investments (2015: Included other gain from sale of Iona Gas Plant of HK\$8,900 million)
4. Finance costs is netted with finance income and include payments made to perpetual capital securities holders
5. Represents current income tax but excluding deferred tax for the year
6. Represents earnings attributable to shareholders (before depreciation, amortisation and deferred tax) for the year retained



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## MARKET REGULATION AND PLANNING

We operate in different countries, each with different market structures and different implications of what sustainability means for our business in each location.

### 2016 REGIONAL DEVELOPMENT

The respective local and national governments are one of CLP's most important stakeholders. We work closely with these stakeholders, and the results help guide and inform our business model and development plans for each country.

In the regions in which CLP operates, there is enormous variation in the electricity market structure. These market structures and the associated rules have a fundamental impact on the financial performance and sustainability of each of our businesses.

Summaries of regulatory developments and government engagements for 2016 in each of the regions where we operate are presented in this section.

#### Hong Kong

Electricity in Hong Kong is supplied by two vertically integrated utilities, each serving different geographical areas. They are regulated by the Government under a Scheme of Control (SoC) framework, which requires them to invest to meet the demand for electricity and allows them to earn a return based on the capital investment in fixed assets made to supply electricity. As one of the electricity utilities in Hong Kong, we are required to conduct our business in a manner that is compatible with the environmental and economic needs of the community. Under the SoC, we have been working closely with the Government to forecast electricity demand and plan for investment to provide a safe and reliable electricity supply to our customers at a reasonable cost, whilst continuing to improve environmental performance. A summary of the most significant regulatory developments in Hong Kong in 2016 is presented on the next page.



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## Hong Kong (Con't)

### Yearly Tariff Review

Under the SoC, CLP is required to submit to the Government a tariff proposal for the next year before the end of October every year. CLP and the Government will jointly review and agree on the tariff before it becomes effective.

CLP's electricity tariff consists of a Basic Tariff and a Fuel Cost Adjustment. The Basic Tariff covers all the costs required to provide electricity, including a standard cost of fuels and a return as determined by the SoC. The Fuel Cost Adjustment covers the charges or rebates for the difference between the actual cost of fuels and the standard cost of fuels recovered through the Basic Tariff.

Average Total Tariff for 2017 will be frozen at HK\$1.132 per unit of electricity. The Average Basic Tariff will be adjusted upward by 3.3 cents per unit while the Fuel Cost Adjustment will decrease by 3.3 cents. In 2017, all CLP customers will receive a one-off special fuel rebate of 2.3 cents per unit based on their electricity consumption in 2016.

### Additional Gas-fired Generation Capacity

To support the Government's environmental policy to increase the percentage of gas used in local generation to around 50% in 2020, additional gas-fired generation capacity is required at our Black Point Power Station. We submitted a project proposal to the Government last year which was followed by an Environmental Impact Assessment (EIA) study report in February 2016. The Government subsequently approved the EIA following

a public inspection, and issued the Environmental Permit in June 2016. The project was formally approved by the Government in December 2016. We target to commission the new gas-fired generation unit before 2020.



The above computer-generated image of the combined-cycle gas turbine (CCGT) generation unit is presented for illustrative purpose only.

### Hong Kong Offshore Liquefied Natural Gas Terminal

As one of the possible future gas sources to meet CLP's increasing gas demand, we have moved forward with our proposal to build an offshore liquefied natural gas terminal in Hong Kong waters that will enable us to have direct access to a range of gas sources from around the world and strengthen the reliability of Hong Kong's fuel supplies. We are progressing with various studies under the environmental impact assessment of the project, and are proactively engaging with potential suppliers to secure the additional supply of gas needed on a long-term basis. A final investment decision is expected by the end of 2018.

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## Hong Kong (Con't)

### Tightening Emissions Caps

To improve air quality in Hong Kong, the Government and CLP have been working together on setting caps on emissions from our power plants for three specified pollutants, i.e. sulphur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>) and respirable suspended particulates (RSP). These caps have become progressively lower over time as a result of regular reviews. The emissions caps applicable for 2016 are the same as those in 2015, the year with a marked step change, which required us to reduce SO<sub>2</sub> emissions by 65% and NO<sub>x</sub> and RSP emissions by more than 30% from the tight base of 2014. We were able to meet these stringent emissions requirements through increasing consumption of natural gas, importing additional nuclear energy from Daya Bay on a temporary basis, making use of more low-emission coal and enhancing the operational performance of our emissions control equipment.

### Future Carbon Targets

The Government announced Hong Kong's Climate Action Plan 2030+ and a carbon intensity reduction target for 2030. By 2030, Hong Kong will lower its carbon emissions per unit of GDP by 65% to 70% from the 2005 level. The Government indicated that Hong Kong will phase down coal-fired electricity generation and have more natural gas and more non-fossil fuels in the fuel mix to meet the enhanced target. CLP will work together with the government on future new generation capacity and the potential replacement of coal generation units to contribute towards this target.

### Future Regulatory Framework

The Scheme of Control (SoC) has delivered reliable and safe power to Hong Kong for over 50 years, along with improving environmental performance and reasonable tariffs. The current SoC Agreement signed between the Government and CLP will expire in 2018 and the Government has indicated in its 2015 public consultation that it wishes to see a new agreement put in place for at least 10 years. CLP has been in constructive discussions with the Government on the future regulatory arrangements.



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## Mainland China

Although the power industry in Mainland China is dominated by state-owned companies, there are some limited opportunities for private companies like CLP to invest in the industry. Although our business is small compared to local players, we are one of the largest external independent power producers with a focus on clean and low carbon energy including nuclear and renewables.

Because the government plays such a large role in the electricity industry in Mainland China, maintaining strong relationships with government officials is just as important as monitoring regulatory developments.

## 13th Five Year Plan for Power Sector Development

On 7 November 2016, China's National Development and Reform Commission along with the National Energy Administration jointly released the 13th Five-Year Plan (FYP) for power development, laying out specific development goals for the power industry from 2016 to 2020. This plan sets out specific installation targets with focus on renewable energy development. The 2020 power demand forecast will be at 6.8-7.2 billion MWh in 2020, up 3-5% per year in 13th five-year period. The FYP also discloses the power sector investment target at RMB7.17 trillion during the period 2016-2020, an 84% increase over the 12th FYP.

## Government Engagements

CLP held various meetings and visits to our assets to engage key government stakeholders and discuss relevant issues.



## India

Like most countries, the electricity sector in India is also highly regulated and both national and state governments play significant roles in the electricity sector of India. Government-owned companies have significant presence in the entire value chain of the electricity industry in India, so our engagement with government, regulators and other semi-government organisations is critical for our business sustainability.

The full spectrum of these engagements includes providing inputs as a stakeholder in government's policy making, project specific proposals and in operational aspects of our Power Purchase Agreements and contract management. Some of the significant engagements during 2016 were:

## Memorandum of Understanding for Development of a Solar Project

The Government of Haryana and CLP signed a memorandum of understanding on 22 February 2016, under which CLP, acting through either Jhajjar Power Limited or one of its other affiliate companies, can develop, operate and maintain, in Haryana, a solar power project with a capacity of up to 132 MW.

## Corporate Power Purchase Agreements (PPAs)

Considering the favorable policies for Corporate PPAs and poor financial health of DISCOM in Tamil Nadu, we started engaging with DISCOM (electricity distribution companies) and other relevant authorities to seek their permission to sell power from our Theni II wind farm under a Corporate PPA arrangement.





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## Australia

Eastern and Southern Australia, where our business is located, is home to the National Electricity Market (NEM). In the NEM, private generators along with a few government owned assets compete to dispatch their generation through a competitive wholesale market. The retail market is largely competitive, allowing customers to enter a contract with a retailer of their choice. It is only the transmission and distribution portion of the electricity value chain that remains substantially regulated, which is necessary due to its monopoly structure.

EnergyAustralia is one of the largest privately owned electricity generators in the NEM and a major gas and electricity retailer in New South Wales, Victoria, South Australia, the Australian Capital Territory and Queensland. EnergyAustralia's business model is to ensure it matches customer demand with generation and because it is a competitive market, industry participants largely rely on the price signals present in the retail and wholesale markets to make decisions about whether to invest in new generation or retire existing assets.

To complement the price signaling, an independent market operator, known as the Australian Energy Market Operator (AEMO), publicly releases annual supply and demand forecasts along with a list of generation and production projects under construction in documents called the Electricity Statement of Opportunities and Gas Statement of Opportunities. AEMO also identifies emerging constraints in the electricity and gas transmission networks.

## State Level Regulation

### Price Regulation

- The New South Wales (NSW) Government deregulated retail electricity prices from 1 July 2014 and is now on track to deregulate retail gas prices from 1 July 2017.
- The Queensland Government deregulated gas and electricity prices from 1 July 2016 in the South East part of the State, following a Queensland Productivity Commission review, which indicated that it was in the best interest of consumers in this predominantly urban area. Electricity in regional parts of the State continues to be non-contestable and price regulated.
- The Victorian Government deregulated gas and electricity prices in 2009 but has maintained the regulation of distributed generation (primarily solar) feed-in tariffs. Legislation is expected to pass in early 2017, which will give the Essential Services Commission of Victoria the power to determine a multi-part feed-in tariff, which will commence from 1 July 2017.





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## Australia (Con't)

### Smart Meters

- The Australian Energy Market Commission made changes in 2015 to encourage competition in the provision of metering services effective from 1 December 2017. This will include ringfencing arrangements to ensure regulated networks do not leverage their regulated asset bases to undermine competitive outcomes. The NSW Government strongly supports greater competition in metering and a voluntary market-led roll out of smart meters, consistent with the national regulatory framework.

### Energy Efficiency Schemes

- The Victorian Energy Efficiency Target (VEET) for 2017 will be 5.9 million energy efficiency certificates. Each certificate represents a tonne of greenhouse gas emission that will be avoided. EnergyAustralia will continue to meet its obligations under the scheme by purchasing certificates from service providers that offer eligible products and services. The scheme is administered by the Essential Services Commission of Victoria (ESCV).
- The NSW Government administers the Energy Savings Scheme (ESS), which is legislated to continue until 2025 or until a national scheme with similar objectives is introduced. Its principal objective is to achieve energy savings by creating a financial incentive to reduce the consumption of electricity through energy saving activities; it has also recently been extended to cover gas. Retailers must calculate their individual energy savings target and obtain and surrender certificates in order to meet that target. If a retailer does not surrender sufficient certificates, it will have an energy savings shortfall

and can either choose to carry this shortfall forward to the following year (up to 10% of the individual energy savings target), or be subject to a shortfall penalty. ESS targets are 7.5% in 2017, 8% in 2018 and 8.5% from 2019 to 2025.

### Vulnerable Customers

Regulators have shown an increased interest in affordability and disconnections levels in 2016. This was reflected in two very different approaches from the ESCV in Victoria and the AER in the remainder of the NEM.

- The ESCV has proposed a prescriptive framework which will impose significant additional regulatory obligations on retailers to give the Victorian Government confidence that disconnections only occur as a last resort.
- The AER has worked with retailers and consumer groups to develop a best practice guide for establishing and managing payment plans with customers. EnergyAustralia formally adopted the guide on its launch in November 2016.



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## Federal Level Regulation

- On 1 July 2016, a safeguard commenced applying to around 140 large businesses that have facilities with direct emissions of more than 100,000 tonnes of carbon dioxide equivalence (t CO<sub>2</sub>-e) a year. EnergyAustralia has four generation sites included in the safeguard – Yallourn, Mount Piper, Tallawarra and Wallerawang (although the latter is no longer operational).
- Energy Ministers from around Australia had previously commissioned Dr. Michael Vertigan to identify potential reforms to the way gas is transported in the East Coast Gas Market. Dr Vertigan delivered his report in December 2016 and found the market is opaque and unbalanced. He recommended greater disclosure and transparency of pipeline services and pricing, as well as mandating commercial arbitration. Ministers accepted Dr Vertigan's recommendations and requested legislative amendments, effective from 1 May 2017. Given that gas transportation can make up 15% of retail gas costs, these reforms should enhance EnergyAustralia's ability to supply gas to customers at the lowest possible cost.



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## FINANCIAL PERFORMANCE

We commit to maintaining long-term stability and growth in shareholder value, in recognition of the importance of social and environmental issues to our shareholders and our shared values.

 **Most Material Topic**  
Economic Performance

### OUR APPROACH

In our Value Framework, we commit to build on and preserve the value of our assets, capabilities and relationships.

 See Commitments On Communications and Reporting.

The power industry is recognised as a capital intensive industry which requires significant upfront investment with long payback periods. The ability to arrange timely, cost-effective, diversified, multiple-tenured and sustainable funding is critical in managing and growing our business. Our shareholders and business partners place high value on our consistent commitment to prudent and vigilant financial management. We are highly committed to preserving our robust capital structure, maintaining strong investment grade credit

ratings, keeping and cultivating good, long-term business relationships with lenders and investors, and reserving financial strength and flexibility to meet business objectives and contingencies.

With our growing, cross-border businesses portfolio, we are exposed to multiple risks of liquidity, financing and refinancing, foreign exchange, interest rates, counterparties and compliance. CLP Group requires all business units to clearly identify, carefully monitor and effectively manage their financial-related exposure, both in policy formulation and implementation.

Identifying potential financial market risks is only the first step of our financial strategy. Equally important is the swift and rigorous implementation of policies and procedures put

in place to mitigate the potential risks to the business which could be exposed to a variety of external financial risks in areas such as funding, foreign currency, interest rates, credit rating and counterparty.



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## DELIVERING VALUE TO SHAREHOLDERS

2016 was a year of steady progress across our portfolio. Group operating earnings increased 7.1% to HK\$12,334 million. Total earnings were down 18.8% to HK\$12,711 million after taking into account one-off items that affected comparability including a significant contribution from the sale of the Iona Gas Plant in Australia in 2015.

In 2016, CLP paid quarterly dividends to our shareholders of HK\$0.57/share for each of the three interim dividends and HK\$1.09/share for the fourth interim dividend. Combined, this resulted in total dividends for the year of HK\$2.80/share. This is an increase from last year's total dividend of HK\$2.70/share. This represents a dividend payout ratio for the year of 57% of operating earnings.

For the global stock market, 2016 marked an unusual year with the United Kingdom's European Union membership referendum and the Presidential Election in the United States.

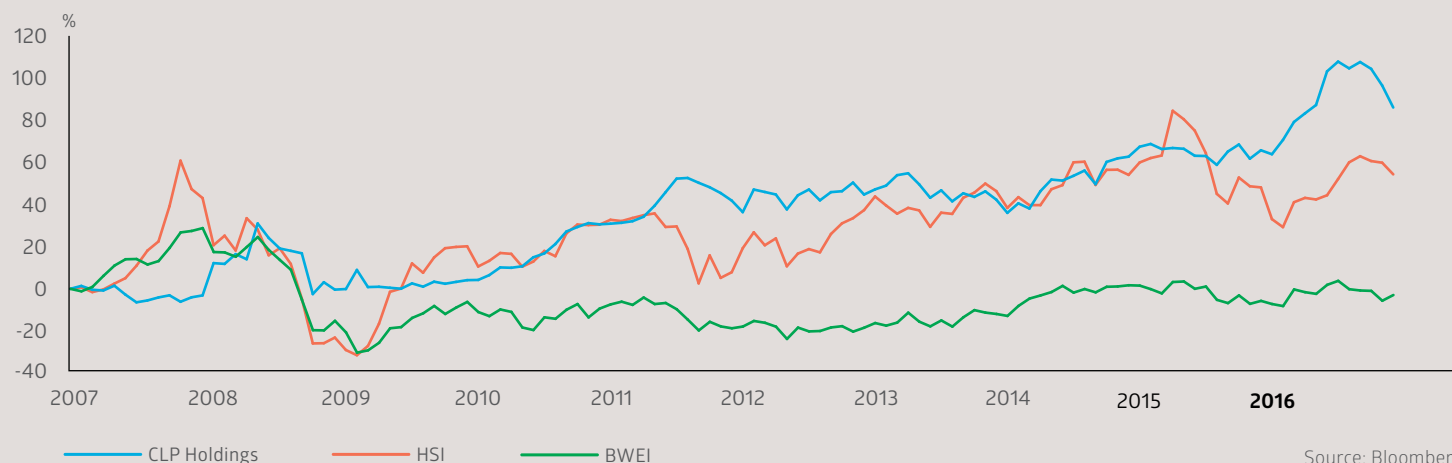
CLP's share price appreciated significantly during the first half of the year and reached an all-time high in July of HK\$83.90. After a period of relative flat trading in the third quarter, it subsequently declined in the fourth quarter to HK\$71.25 in line with the Hang Seng Index (HSI) and in response to uncertainty associated with the US Presidential Election and interest rate pressures in the United States. Relative to the starting position on 1 January, 2016, CLP's share price gained 8.2% and significantly outperformed both the HSI

and Bloomberg World Electric Index (BWEI), which finished the year up by 0.4% and down by 1.0% respectively.

In 2016, the average closing price of CLP's shares was HK\$74.01, an increase of more than 11% when compared with the average of 2015. The stock recorded its highest closing price of HK\$83.90 on 26 July and the lowest closing price of HK\$62.45 on 21 January. It ended the year at HK\$71.25.

Total returns to shareholders come from the combination of share price appreciation and dividend payments over time. During the 10-year period from 2007 to 2016, CLP provided an annualised rate of return of 6.42%, as compared with 4.44% for the HSI and a negative return of 0.30% for the BWEI.

### Total Returns — CLP vs HSI and BWEI (2007-2016) (Base: 31 December 2006 = 0%)



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## CREDIT RATINGS

CLP always strives to maintain strong investment grade credit ratings. In 2016, our commitment and initiatives to support a strong financial position were recognised by positive rating actions from S&P for both CLP Holdings and CLP Power Hong Kong (rating outlooks revised to positive from stable) as well as to EnergyAustralia (credit rating to BBB from BBB- and outlook to positive).

The credit ratings of major companies within the Group as of 31 December 2016 are presented here.

	S & P	MOODY'S
	CLP Holdings (A- / Positive) CLP Power Hong Kong (A / Positive) EnergyAustralia (BBB / Positive)	CLP Holdings (A2 / Stable) CLP Power Hong Kong (A1 / Stable)
<b>Positive</b>	<ul style="list-style-type: none"> <li>• Sound and stable regulated business in Hong Kong</li> <li>• Higher earnings from overseas businesses</li> <li>• Ample liquidity, enhanced operational stability and working capital management in EnergyAustralia</li> </ul>	<ul style="list-style-type: none"> <li>• Predictable cash flow contributions from Hong Kong business</li> <li>• Sound liquidity profile of CLP Holdings</li> <li>• Good access to banks and capital markets, and the availability of sizeable committed bank facilities</li> </ul>
<b>Negatives</b>	<ul style="list-style-type: none"> <li>• Limited visibility on the regulatory framework in Hong Kong after 2018</li> <li>• EnergyAustralia operates in a highly competitive energy market that is facing some structural changes</li> </ul>	<ul style="list-style-type: none"> <li>• Overseas and non-regulatory business investments increase risk profile</li> <li>• CLP Holdings' credit rating is constrained by improving but modest performance of its Australian operations</li> </ul>



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Pursuing excellence in operating our manufactured assets across the value chain underpins our performance in safety, reliability and cost-effectiveness.



For 2016, the following most material topic relevant to this chapter was identified:

### *Availability and Reliability*

Electricity is a vital form of energy to society so the availability and reliability of the equipment and infrastructure that generates, transports and delivers that electricity is also of the utmost importance. Any material shortfall could tarnish our reputation and financial performance.

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## INTERVIEW WITH THE CHIEF OPERATING OFFICER

### ? What were the highlights for you in 2016?

As a Group, we need to break down the jurisdictional silos and create synergy along with some healthy internal competition, for better capital performance. With our manufactured capital performance seeing an aggregate increase on performance in 2016 versus plan and against 2015 actuals — a solid operational performance year — we have made progress.

The catalyst for such change has been the forums that have taken place regularly throughout this year, where colleagues have invested enthusiastically to showcase assets they are proud of and to share best practices and lessons learned at the forums, with subsequent follow up on the Group Operations Yammer website. A quote I overheard one employee say that helps brings this point home was, "I've been at CLP for a number of years and this is the first time I've talked to someone doing the same job — it feels great to be able to share and learn from each other in this environment."

### ? What were the key challenges in 2016?

Safety would be the first critical challenge. Our safety metrics show we are improving and yet we have had three contractor fatalities in 2016. Each occurred at a different site – Sihong in Mainland China, and Jhajjar and Tejuva in India. With the two in India being related to falls from height, greater focus, awareness and training for falls from height is ongoing. There is now greater emphasis on proactively developing healthy local community dialogue as an essential part of the development phase of a project as well. Going forward, we must continue to strengthen our management of contractors and ensure that all procedures are followed and risk identification is undertaken more rigourously.

Lateness in major construction projects against plan would be the second challenge. Whether the plan was too optimistic or the delay was due to justifiable unforeseen circumstances, it is important that we identify any root causes that can be mitigated or even prevented. Instilling discipline at this early stage of the project will help ensure we continue to deliver world class operations.

### ? What keeps you awake at night?

Operating our business safely is always on my mind and continues to be a challenge. That said, our current business model is under threat and new players are beginning to eat into our value chain. The rising trend of distributed energy and direct prosumer-to-prosumer trading systems that can bypass a utility's core business is a challenge to some existing business models. The technologies involved are typically asset light, software heavy, modular and therefore very scalable with little upfront permitting or extensive development cycles. Such characteristics open up both competitive and regulated markets to many new market players that don't necessarily require deep power expertise as a critical factor. This can pose as both an opportunity as well as a challenge for CLP and it is good to see that we have already started to take action with opportunity being the focus.

### ? How can we prepare for the future?

CLP has already started its innovation journey in 2016 under the general theme of opportunities under digital disruption. With the aim of implementing new sustainable technologies and business models under a new sharing and circular economy, we are preparing, incrementally through pilots and demonstration projects in different regions to develop the tools, knowledge, necessary skillsets and centres of excellence. Where we do not have the skills, we are selectively choosing appropriate long-term partners.

We need to continue to be proactive in defending our business and building capabilities for the new business models that will prevail. We have made a good start, but we still have a long way to go.



Derek Parkin  
Chief Operating Officer of CLP Group



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## POWER GENERATION AND DELIVERY

We are committed to generating and delivering electricity safely and reliably, at a competitive price and with the least environmental impact, to power the development of sustainable communities.

**Most Material Topic**  
Availability and Reliability

### AVAILABILITY AND RELIABILITY

In our Value Framework, one of our core values is that CLP Cares about Performance. We deliver world-class energy products and services and strive to continuously enhance business value.

See Value - CLP Cares about Performance.

Availability and reliability are two key performance metrics for CLP assets. Targets for each asset are set annually and included in the business plan. Performance is reported on a weekly basis to Senior Management. Any significant variations to plans are analysed and corrective actions are put in place where appropriate.

For our generation assets, we monitor the availability factor which is the amount of time that the asset is able to produce electricity over a certain period divided by the amount of time in that period. Typical values range from 70% to 90%. The following table shows the generation performance of our assets.

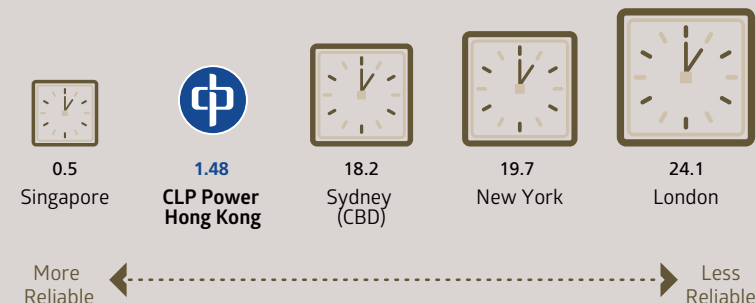
#### Reliability of Electricity Supply in Hong Kong

We maintain a world-class supply reliability of over 99.999%. Between 2014 and 2016, on average a CLP customer experienced 1.48 minutes of unplanned power interruptions per year, improving from 1.51 minutes between 2013 and 2015.

The achievement is an aggregation of various factors such as a regulatory framework that encourages careful investment planning, professional maintenance and expertise in power operations. In 2016, we invested HK\$7.3 billion to continue to maintain and enhance the reliability and security of our supply system and generation assets to meet both current and future energy demand. This included: the upgrade of existing generation units; the commissioning of new substations to support new development areas and the expansion of Hong Kong's railway networks; and the commissioning of new circuits to reinforce our transmission and distribution networks.

#### Reliability Levels in Hong Kong, New York, Sydney, London and Singapore

Unplanned customer minutes lost per year



Notes:

- 2014 - 2016 average for CLP Power Hong Kong
- 2013 - 2015 average for all other cities (the latest available data)
- Singapore's power supply network is mostly underground, and is less exposed to the influence of weather and other external interferences than overhead lines.

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## GENERATION PERFORMANCE OF OUR ASSETS IN 2016

FACILITY	BUSINESS TYPE	GENERATION TYPE	GENERATING CAPACITY (MW)	EQUITY OWNERSHIP (%)	EQUIVALENT AVAILABILITY FACTOR (EAF) <sup>1</sup> / AVAILABILITY FACTOR (AF) <sup>2</sup>	GENERATION SENT-OUT (GWh)	THERMAL EFFICIENCY	ENERGY INTENSITY (kJ/kWh)
<b>Hong Kong</b>								
Black Point	Power Generation	Gas	2,525	70%	81.40%	9,175	45.10%	7,982
Castle Peak	Power Generation	Coal	4,108	70%	85.75%	15,187	33.05%	10,893
Penny's Bay	Power Generation	Oil	300	70%	98.90%	1	21.10%	17,062
Transmission & Distribution Network	Power Delivery	N/A	N/A	100%	N/A	N/A	N/A	N/A
<b>Mainland China</b>								
Dali Yang_er	Power Generation	Hydro	49.8	100%	79.75%	183*	N/A <sup>3</sup>	N/A <sup>4</sup>
Fangchenggang I	Power Generation	Coal	1,260	70%	97.00%	2,787	35.67%	10,093
Huaiji	Power Generation	Hydro	129	84.90%	86.80%	548*	N/A <sup>3</sup>	N/A <sup>4</sup>
Jiangbian	Power Generation	Hydro	330	100%	90.00%	1,114*	N/A <sup>3</sup>	N/A <sup>4</sup>
Jinchang	Power Generation	Solar	85	51%	99.60%	119*	N/A <sup>3</sup>	N/A <sup>4</sup>
Laiwu I	Power Generation	Wind	49.5	100%	99.73%	75*	N/A <sup>3</sup>	N/A <sup>4</sup>
Penglai I	Power Generation	Wind	48	100%	99.77%	94	N/A <sup>3</sup>	N/A <sup>4</sup>
Qian'an I and II	Power Generation	Wind	99	100%	97.60%	142*	N/A <sup>3</sup>	N/A <sup>4</sup>
Sihong	Power Generation	Solar	93.42	100%	100.00%	135	N/A <sup>3</sup>	N/A <sup>4</sup>
Xicun I and II	Power Generation	Solar	84	100%	99.55%	164*	N/A <sup>3</sup>	N/A <sup>4</sup>
Xundian I	Power Generation	Wind	49.5	100%	99.60%	135*	N/A <sup>3</sup>	N/A <sup>4</sup>
<b>India</b>								
Jhajjar	Power Generation	Coal	1,320	100%	93.19%	2,965	34.65%	10,390
Paguthan	Power Generation	Gas	655	100%	95.56%	547	39.84%	9,036
<b>Australia</b>								
Cathedral Rocks	Power Generation	Wind	66	50%	85.96%	156	N/A <sup>3</sup>	N/A <sup>4</sup>
Hallett	Power Generation	Gas	203	100%	90.55%	39	17.70%	20,339
Mount Piper	Power Generation	Coal	1,400	100%	77.60%	7,264	35.40%	10,169
Tallawarra	Power Generation	Gas	420	100%	95.22%	858	47.07%	7,648
Yallourn	Power Generation	Coal	1,480	100%	87.80%	10,483	25.85%	13,926

Remarks:

1. Equivalent Availability Factor (EAF): is the proportion of available hours less full load equivalent of de-rated in a period of one year (8,760 hours).
2. Availability Factor (AF): is the fraction of hours in a period of one year (8,760 hours) when a plant is available to generate electricity.
3. N/A: In this context, N/A means "Not Applicable" as renewable generation does not have a thermal efficiency because power is not generated through thermal process.
4. N/A: In this context, N/A means "Not Applicable" as energy intensity is not calculated for renewable energy.
5. Data marked with \* are Energy Sold (the rest are Sent Out data)

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## GENERATION

Since we commissioned our first generator over a century ago in Hong Kong, we have increased our generation capacity to 18,622MW equity of generating capacity and 5,159MW of capacity purchase from six different energy sources. Our diversified portfolio of power generation assets includes: coal, gas, nuclear and renewable energy (wind, hydro and solar).

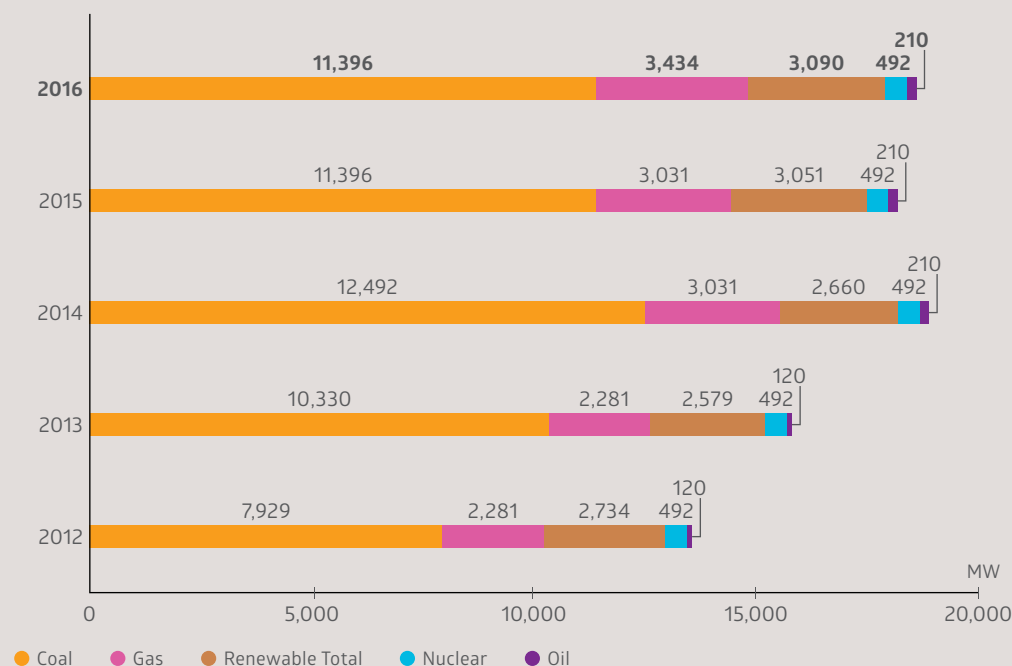
In 2016, the Group's total generation capacity increased by 2.4% to 18,622MW (2015: 18,180MW). Coal capacity remained the same whereas the renewable capacity rose by 1.3% during the same year.

The Group's total electricity sent out, which is based on 100% of sent out from the plants where CLP has investment and includes our capacity purchase, was 133,275GWh in 2016 (2015: 132,231GWh). On CLP's equity basis, which also includes capacity purchase, our electricity sent out was approximately 79,800GWh (2015: 78,975GWh). They remained at similar levels to 2015.

Most of our assets use electricity generated from their own operations for ancillary use but a small amount is also purchased from the grid. In 2016, the amount of electricity purchased at our operationally controlled assets for their own use was over 229.6GWh.

We report the annual operating performance of our generation portfolio for those assets which fall within our environmental scope as defined in the Reporting Scope section. The performance metrics include the availability factor, generation sent-out, thermal efficiency and energy intensity. (See the previous table on the generation performance of our assets.)

### CLP Group Generation Capacity on an Equity Basis





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## MOVING TOWARDS CLEAN ENERGY

We need to have in place a sustainable set of regulatory structures that facilitate the transition to a cleaner energy mix, financing mechanisms to support that change, as well as conventional and renewable energy sources that are reliable and affordable.

While the power industry is ready to do its part for the low carbon energy transition, it must be recognised that different parts of the world will require different solutions at different times. In developing economies, coal will remain as one of the primary energy sources for some time. Being cognisant of and sensitive to the local circumstances, CLP is committed to supporting the different choices made by the governments of the communities where we operate to deliver the cleanest solutions based on the choices those countries make.

Here are examples of clean energy projects which we have commissioned or announced in 2016.



For the renewable assets which have been commissioned or construction has started, please see the Portfolio Changes section in this report.

### Mainland China

Towards the end of the year, we announced our investment in Yangjiang Nuclear Power Station. The transaction is expected to be completed in a few months time. Daya Bay's excellent operational and safety performance over the years has given us confidence in the development of nuclear power in Mainland China. The Yangjiang investment is set to provide a stable and reliable stream of earnings in a sector that has strong policy support from the Mainland Government. This investment underscores our belief that nuclear power as a zero carbon technology will play a pivotal role in China's energy transition.



Our shift to renewable and non-carbon emitting energy addresses SDG #7: ensure access to affordable, reliable, sustainable and modern energy for all.



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## Hong Kong

We have made progress in two projects which will go a long way towards reducing carbon intensity in Hong Kong and strengthening the city's energy security in support of the Government's 2020 fuel mix objective and its new 2030 climate target.

In December 2016, we obtained approval from the Government to construct a 550MW gas-fired generation unit at our Black Point Power Station, which will use state-of-the-art combined-cycle gas turbine (CCGT) technology in support of its target of increasing the percentage of local gas generation by 2020. Construction work has started and we aim to commission the new unit before 2020.

In addition, we are now conducting an environmental impact assessment for the construction of an offshore liquefied natural gas terminal in Hong Kong waters. The terminal will enable us to have direct access to a range of gas sources from around the world and strengthen the reliability of Hong Kong's fuel supplies.



## Australia

EnergyAustralia is committed to meeting its obligations under a national Renewable Energy Target and continues to support an orderly transition towards cleaner forms of energy. In December 2016, EnergyAustralia announced that it would sign agreements to underpin the development of up to 500MW of renewable energy in the form of new wind and solar projects across eastern Australia. As part of this commitment, EnergyAustralia has already agreed to take output from the Manildra Solar Farm in New South Wales, the Ross River Solar Farm in Queensland and the Gannawarra Solar Farm in Victoria.

The approach supports the country's efforts to lower the emissions intensity of electricity generation by helping new renewable energy projects to be built and operated in the most cost-effective way.



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## ASSET MANAGEMENT

Assets are critical to the success of business operations. At CLP, a key initiative in 2016, was the development of an Asset Management System (AMS) Standard that aims at standardising key practices in asset management across the Group. The AMS sets out a framework to ensure that we follow the industry's best practices based on the ISO 55000 series of standards for asset management as well as the ISO 31000 standards for risk management.

The AMS Standard is integrated with CLP's Health, Safety, Security and Environment (HSSE) Management System and the new Project Management Governance System (PMGS) Standards to manage the complete lifecycle of an asset from the planning stage to decommissioning.

The 10 asset management elements and five key stages in the AMS are illustrated in the following diagram.



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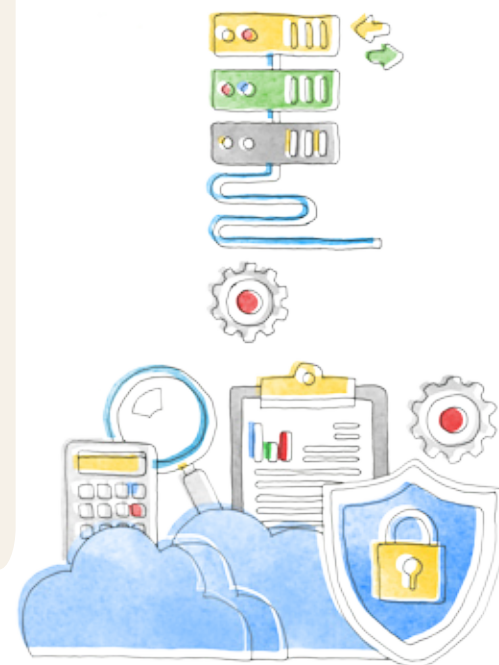
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## OPERATIONAL EFFICIENCY IMPROVEMENT

We have a variety of generation assets in our portfolio, using different fuel sources and at various stages of the asset lifecycle. Whichever type of generation assets, we endeavour to identify opportunities for improvement in operational efficiency. For projects involving a major overhaul of the assets, they undergo stringent technical and financial scrutiny before implementation. Our ultimate aim is to operate all of our plants efficiently with minimal environmental impact.

Below are some of the operational efficiency improvement initiatives conducted on our plants in 2016:

- At Hong Kong's Black Point Power Station, one of the eight gas turbine systems was successfully upgraded, increasing its capacity by 25MW, or 8%, enhancing its nitrogen oxides emissions performance and making a minor improvement in efficiency and fuel cost. The success of this trial paves the way for additional units to progressively be upgraded in coming years to realise the full potential for environmental performance improvement and capacity increase.
- In Mainland China, we completed refurbishments of three hydro stations of our Huaiji asset, increasing the overall Huaiji generating capacity by around 3%.
- At our Fangchenggang power station in Mainland China, we completed Phase II extension of two ultra-supercritical units with higher efficiency, increasing the project's capacity from 1,260MW to 2,580MW. We also modified the existing supercritical units of Phase I, saving around 26,000 tonnes of standard coal per year. In addition, we optimised coal yard management by maintaining a reasonable coal stock level and reduced the cost of coal inventory by RMB5 million in 2016. Further improvements are planned in 2017. We have begun tendering for a retrofitting project for Phase I to ensure compliance with Mainland China's emissions requirements by the end of this decade.
- At our Mount Piper Power Station in Australia, there has been deterioration in performance over a number of years due to deposition on the steam turbine blades. In 2016, we took a major outage on one unit and successfully removed the deposition and recovered approximately 8% in capacity and 2% in efficiency. The second unit will be similarly treated in 2017 to improve output and efficiency.



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## TRANSMISSION AND DISTRIBUTION

While CLP has generation businesses across the Asia-Pacific region, Hong Kong is the only location where we operate a transmission and distribution network. It serves about 80% of the population of the city and close to 100% of the population in our service area.

The reliability of our system is above 99.999%, higher than other major cities such as London, New York and Sydney. At the end of 2016, we had approximately 1,170 km of overhead lines and approximately 14,111 km of underground circuits at medium or higher voltage. In addition, we also had 230 primary and 14,254 secondary substations in Hong Kong.

In 2016, our average network loss for the past five years was 4.1% of the total energy, which remained unchanged from our 2015 figure.

### Performance

We use a set of universally recognised supply reliability performance indicators from the IEEE 1366-2012 standard to monitor our system performance. These indicators are the core attributes for power systems and are reported annually to the Hong Kong Government.

#### System Average Interruption Frequency Index (SAIFI)

SAIFI is the average number of supply interruptions for each customer served. Both planned and unplanned interruptions are included. Our three-year average SAIFI (2014 – 2016) was 0.18, meaning our customers experienced a power interruption approximately once in five years during this period. It slightly increased over last year's three-year rolling average of 0.17, due to the installation process for the increased scale of meter replacement with smart meters.

#### System Average Interruption Duration Index (SAIDI)

SAIDI is the average duration of interruptions each customer may encounter in a given year. Our three-year average SAIDI (2014 – 2016) was 0.35 hours including both planned and unplanned interruptions. This was an improvement over last year's three-year average SAIDI (2013 – 2015) of 0.39 hours.

#### Unplanned Customer Minutes Lost (Unplanned CML)

Unplanned CML is the average duration of unplanned power interruptions per customer in a given year. These outages occur without prior notice, and happen as a result of various factors such as weather events, third party damage to the network and equipment faults. Our 2014 to 2016 three-year average unplanned CML was 1.48 minutes, improving from 1.51 minutes between 2013 and 2015.





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## Customer Safety

Electricity needs to be provided safely. We take this responsibility seriously and place the highest priority on both customer and employee safety.

Working near electricity supply lines could impose public health and safety concerns. We conduct regular construction site inspections and provide cable plans and safety talks to road work contractors to enhance safety awareness. Through site inspections and safety talks, measures for working near electricity supply lines are communicated to site management personnel.

Electromagnetic fields (EMF) arising from the power system is another public health concern. Our power supply equipment fully complies with the guidelines issued by the International Commission on Non-Ionising Radiation Protection (ICNIRP). Regular EMF measurements on our power supply equipment are carried out jointly with the Electrical and Mechanical Services Department. The measured EMF levels are well below the guideline limits.

## Continuous Improvement

To meet the electricity demand growth, we review future transmission network developments annually in accordance with the latest system maximum demand forecast, area load growth, infrastructure development and generation development. We also develop maintenance and improvement programmes annually for major assets, based on the analysis of current conditions and performance of assets, level of investment and risk.

In 2016, we continued to improve the reliability of our power supply network. Apart from vegetation management and third party damage prevention programmes, various measures were taken to further enhance network reliability and minimise customer interruption time.

Some examples were:

- Installing on-line condition monitoring systems for switchgear and transformers to allow real-time monitoring and detection of incipient fault conditions;
- Completing the reinforcement of the towers for 400kV overhead lines against super typhoons and continuing our refurbishment of switchgear; and
- Conducting regular reviews and targeted studies on network performance to drive continual improvements.



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## EMERGENCY MANAGEMENT

**We conduct regular drills and are vigilant and ready in terms of responding to and recovering from any emergency situation in a timely and effective manner so as to minimise disruption to our customers and enable their recovery if they are affected.**

To ensure CLP can respond effectively to natural or man-made crises and minimise any impact on people, assets, operations and the community, we have in place emergency response and crisis management plans. These plans lay down the processes, actions and responsibilities for responding to and managing the full spectrum of possible outcomes-from an emergency incident at an individual asset level, right up to a crisis that could affect the overall Group.

### Group and Regional Level

Complementing the top level standard and guideline is the Group Crisis Management Plan that provides the necessary information to enable a crisis to be effectively handled at CLP Group level. It outlines our crisis management organisation, roles and responsibilities, procedures and processes, as well as all the tools needed to ensure our collective response to a Group crisis is well planned, well executed, and fully integrated across our organisation. The Plan also describes the relationship and interface between the handling of regional and group level crises, and places increasing emphasis on the processes that govern internal and external communication during emergencies, to ensure that the people responsible for managing the crisis have the necessary information to carry out their responsibilities and that key stakeholders are informed.

In 2016, we updated the Group Crisis Management Plan and conducted two training sessions including working through a number of crisis scenarios. At a regional level, the India Crisis Management Plan was activated due to significant community protests by one ethnic group seeking Government concessions for education and employment. These protests led to transport blockades, rioting and damage to infrastructure. The protests were unrelated to our company or assets, but had the potential to affect us. The India Crisis Management team was activated and precautionary measures were taken. No material impact to our business occurred.

In 2016, we also strengthened support to employees engaged on business travel by the provision of: enhanced pre-trip medical and security advice; access to a help desk for staff on the road; and an emergency response capability if ever needed.

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## Generation Assets

Each asset has its own Emergency Management Plan (EMP). These plans vary depending on the type of plant, the region in which it is located and what types of risks it faces. In order to be prepared for an emergency and to know how to put the plan into action, assets conduct emergency response drills at least annually, with smaller scale drills taking place more often. Emergency Management Plans are reviewed as part of our internal Peer Review process.

Above asset level, support is provided by a number of layers — from the local management office to the regional office and finally the Group. The regions and Group have devised more general crisis management plans, which are designed to enable both levels of entities to respond efficiently to any crisis whenever and wherever it unfolds. Regions and the Group are expected to conduct drills with these plans at least once every three years.

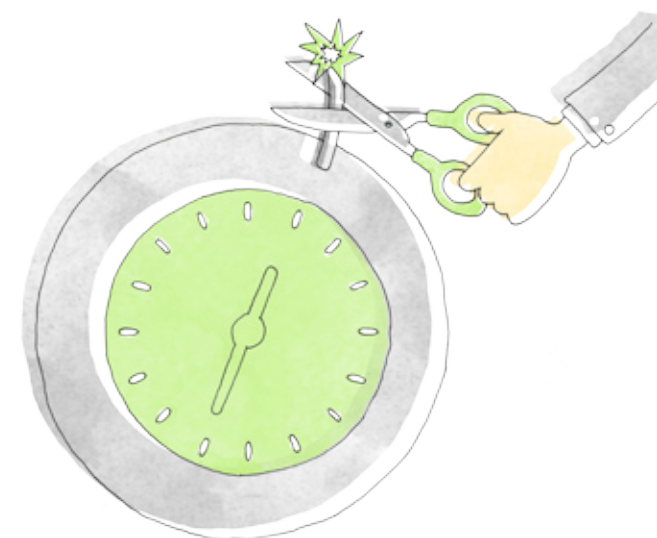
## Transmission and Distribution Network

The increasing occurrence of extreme weather events such as a super typhoon can have a serious impact on the operation of our power system and consequentially, continuity of the electricity supply to the Hong Kong public.

Over the years, we have undertaken various measures to improve the resilience of our power supply system and to counter extreme climate conditions of super typhoons and severe floods. We have:

- Completed the reinforcement project for pylons of 400kV overhead lines to withstand super typhoons;
- Finished the installation of flood damage mitigation and alarm systems at our low lying substations to guard against potential storm surges;
- Established an Integrated Vegetation Management Operation Centre to strengthen our vegetation management capability (many of the overhead line faults during typhoons are caused by flying or falling vegetation);
- Conducted regular drills to ensure our contingency plans could be executed smoothly when needed; and
- Conducted post-typhoon reviews to continually look for ways to improve our network and emergency response capability.

Looking ahead, we plan to develop a model that can more accurately forecast the effect of an approaching typhoon on our network so that we can be better prepared.



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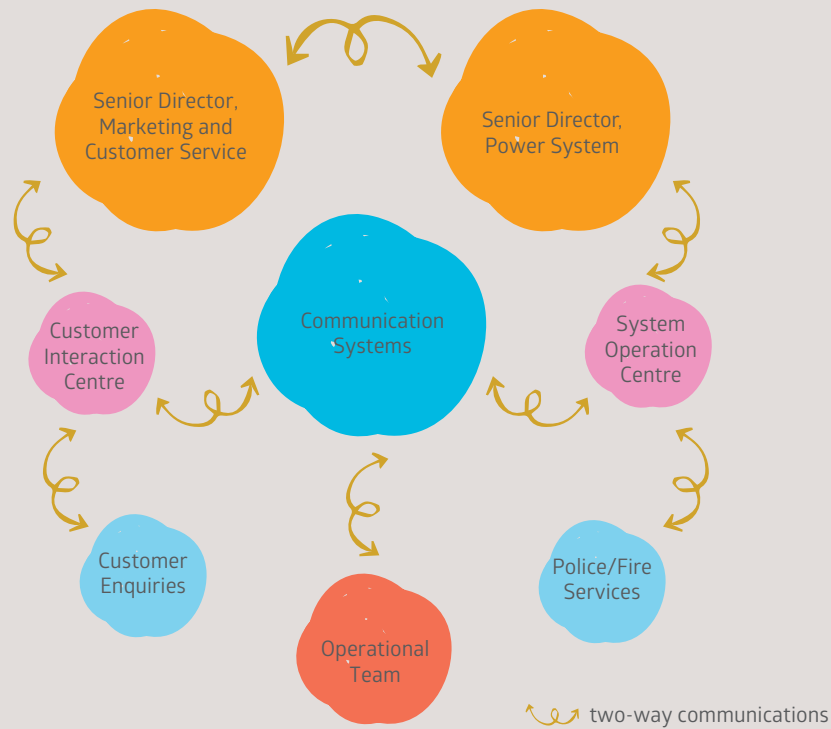
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## RETAIL

The majority of our communication with the public is conducted at the retail level. When emergency events occur, we need to disseminate effectively to different stakeholders, information such as outage severity, restoration status, projections, as well as appropriate safety messages.

In Hong Kong, our main interaction with the general public occurs in the Customer Interaction Centre (CIC), where our Customer Relations Officers handle enquiries. The CIC operates in emergency mode during adverse weather to handle the sudden upsurge of customer calls. If circumstances require, we may also set up a back-up centre to accommodate additional call agents handling calls diverted from the main CIC.

### Organisation Structure in Handling Typhoon Emergency



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## PROCUREMENT

We encourage our suppliers towards continuous improvement and best practices, and expect them to adhere to our Responsible Procurement Policy Statement which includes principles on legal compliance, respect for people, ethics and business conduct and environmental stewardship.

### OUR PROCUREMENT PRACTICES

All purchases performed comply with CLP's Code of Conduct, and are guided by CLP's Procurement Values and Principles as well as CLP's Responsible Procurement Policy Statement (RePPS). Our operation is also guided by CLP's Whistleblowing Policy and Harassment-Free Workplace Policy. We encourage our suppliers to abide by the above principles and require them to adopt similar standards and practices when doing business with us. Our contract terms and conditions also stipulate RePPS expectations on business ethics and relevant project RePPS requirements.

- See CLP Power Procurement Values and Principles.
- See CLP Group's RePPS.

Our preferred suppliers are those who are ethical and committed to sustainable development, and have a track record on HSSE competence. Their products and services should be of high quality and they should be capable of meeting the expectations of our Responsible Procurement Policy Statement (RePPS). They should be compliant with legal and business performance requirements and maintain internationally competitive pricing. All purchases performed should be in line with CLP's Code of Conduct as well as our Procurement Values and Principles.

The CLP Group Procurement Network was formed in 2016, led by CLP Group Operations with regional procurement teams being network members. Key objectives are to further enhance procurement efficiency and effectiveness through synergy, standardisation and best utilising network expertise in procurement.

In December 2016, we launched the CLP Group Procurement Standard (GPS) to set the key principles for general and fuel procurement for all regions across the Group. The key objectives of the GPS are to guide us to formulate and execute the best-fit procurement strategies to acquire the right products and services that best meet our business needs in the most cost-effective manner, while maintaining a high level of integrity and ethical standards.

### Recognition

With our commitment and sustainable effort in green procurement, CLP Power was honoured with a Gold Award in "Green Purchasing Award" under the "Hong Kong Green Awards 2016".





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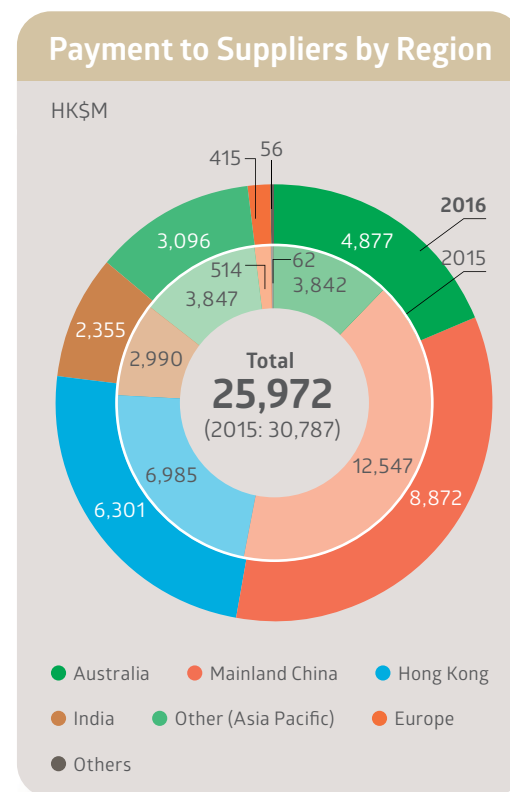
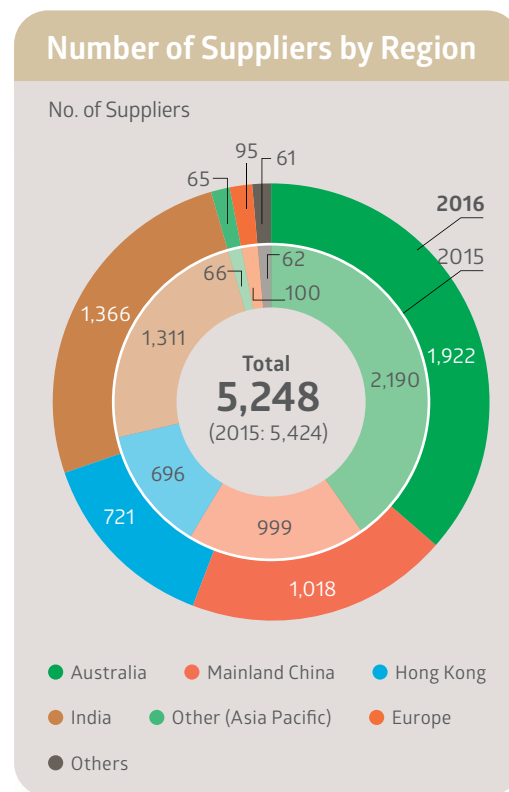
## PERFORMANCE

We take a collaborative approach to engage our suppliers in uplifting their capability. Suppliers for critical projects, which constitute the majority of 2016 total project amount, are assessed for their relevant sustainability status and practices through self-declaration, tender evaluation, site visits or checks, or two-way performance reviews as appropriate.

Our supplier assessment and monitoring mechanism confirmed there was no significant RePPS risk in 2016. No supplier relationship was terminated due to the assessment and monitoring result. Given the nature of our business, we collaborate with suppliers in managing environmental impact during operations. We also actively seek the opportunity to advocate responsible procurement to peer companies through organised practice sharing and visits to our power plants.

For all major assets in Hong Kong, Mainland China, Australia and India, we purchased from

5,248 suppliers a total of HK\$26 billion in 2016. Some 86% of this amount was from local suppliers in these four regions, supporting the local community while meeting CLP's business needs.



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2016 HONG KONG CARBON INTENSITY

AIR EMISSIONS

WATER

WASTE

BIODIVERSITY

We are conscious in managing our natural capital prudently despite our business need to expand into more remote locations and the increasingly stringent environmental regulations.

For 2016, the following most material topics relevant to this chapter were identified:

### Environmental Compliance

CLP being a public utility, there is an expectation from the general public that we will be in full compliance as a basic requirement. Compliance with laws and regulations is a key commitment in CLP's Value Framework.

### Energy

Our stakeholders expect us to use energy more efficiently and opt for renewable energy sources where practicable. As the world is moving towards a low carbon future, it is in our business interest to decarbonise our generation portfolio.

### Emissions

Greenhouse gas emissions affect global climate change, while air emissions affect the regional and/or local air quality. It is a very material environmental issue for fossil-fuelled power stations because of the nature of the technology.



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## INTERVIEW WITH THE CHIEF ADMINISTRATIVE OFFICER

### ? What were the highlights for you in 2016?

The rapid ratification and adoption of the Paris Climate Change agreement by the international community and the increased momentum it gave to our efforts to transition our business, stands out as a highlight for 2016. There has been further recognition of the need to limit coal investments and develop our low carbon business. In this context, the commencement of our maiden solar project in India with the 100MW Veltor Solar Farm, was particularly pleasing.

In parallel, steady progress was made in our efforts to respond to the other significant global trends impacting us, such as technological disruption and workforce transition.

With our investment priorities transitioning away from coal to pursue low carbon opportunities, we are also actively exploring the development of new services and service-based business models and the development of the requisite organisational capabilities.

### ? What were the key challenges in 2016?

Regulatory certainty remains a key challenge for the business, particularly in making an orderly transition over time to a net zero carbon future. We operate in a number of countries that are each still developing and evolving different policies to address this broad issue. This takes place against an international backdrop where the level of political risk globally is increasing. This means that the potential business risks and opportunities for us continue to be quite diverse, which introduces the challenge of uncertainty and also means that business models may not be easily replicated across the different jurisdictions.

One of the solutions that can assist in managing these differences is the use of technology. We are beginning to use digital technology to operate more efficiently and so even if actual business models themselves may not be replicable, there could still be effective and efficient technologies, practices, systems or processes that can be replicable to scale up efficiency in each of the places we operate.

### ? What keeps you awake at night?

Disruption of our sector would be my top concern. We, together with other power companies around the world, are facing disruption from global trends like technology changes, in this case digitalisation, regulatory change as governments seek to transition to a lower carbon world, and social changes like customers wanting to take greater control of how their energy needs are met. Political changes, such as how US policies and regulations will affect the Asia-Pacific region are also of concern. The geopolitical implications arising from the changes that we saw in 2016, will ultimately affect us and although we know these changes have increased the uncertainty in the world we live in, whether the effects will be positive or negative for the Asia-Pacific region, we have yet to see.

### ? How can we prepare for the future?

CLP is continuing to build skills and capabilities in renewable energy and low carbon businesses along with the capabilities to take advantage of the efficiencies that digital technology brings. We are also transitioning our corporate mindset from being a Holdings company with subsidiaries that work in silos, to a Group where subsidiaries can leverage off each other to increase operational and innovation efficiency. As we complete this transition, we will look to see how we can further deepen our integrated decision-making culture such that decisions can be made more collaboratively across the Group. We need to develop the range of capabilities and organisational agility that will allow us to be prepared to address future uncertainty.



David Simmonds  
Chief Administrative Officer of CLP Group



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## POLICIES, SYSTEMS AND STANDARDS

**We have an overarching Group-wide environmental policy Statement supported by a suite of standards and guidelines to cover the material environmental issues we face and data management systems to ensure our data reporting work is robust.**

### OUR APPROACH

We have a Group Environmental Policy Statement, which in turn is supported by more specific policies at the Group or business unit levels.

See Management Approach to Sustainability Governance in this report.

We have over the years, in consultation with colleagues from across the Group, implemented a number of internal environmental standards and guidelines. These serve partly to ensure good practices are mandated, and also to align Group-wide practices. The implemented standards and guidelines cover topics such as environmental impact assessments, environmental monitoring, environmental management system development, environmental due diligence, and non-financial data management.

### ENVIRONMENTAL MANAGEMENT SYSTEM STANDARD

We require power generation facilities over which we have operational control, to achieve third-party certified ISO14001 environmental management systems within two years from commencement of operation or acquisition.

We are pleased to report that in 2016, all assets in this category achieved ISO14001 certification on time, with our Sihong solar plant in Mainland China achieving ISO14001 certification in 2016. The following table summarises the environmental management systems and measures in place at our operationally-controlled assets.

### POWER PLANT AIR EMISSIONS STANDARD

On air emissions, any fossil fuel-based power plant developed after the effective date of our Power Plant Air Emissions Standard (December 2015) is required to operate within CLP's prescribed limits on sulphur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>) and particulates emissions, or to comply with local regulations, whichever is more stringent.

See Air Emissions section for more details.



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## ENVIRONMENTAL MANAGEMENT SYSTEMS OF OUR ASSETS IN 2016

FACILITY	BUSINESS TYPE	GENERATION TYPE	GENERATING CAPACITY (MW)	EQUITY OWNERSHIP (%)	ENVIRONMENTAL MANAGEMENT SYSTEM	CEMS	PARTICULATE CONTROL EQUIPMENT	LOW NO <sub>x</sub> BURNER	FGD	WATER MANAGEMENT	WASTE MANAGEMENT
<b>Hong Kong</b>											
Black Point	Power Generation	Gas	2,525	70%	✓	✓	NA	✓	NA	✓	✓
Castle Peak	Power Generation	Coal	4,108	70%	✓	✓	✓	✓	✓	✓	✓
Penny's Bay	Power Generation	Oil	300	70%	✓	Nil	NA	Nil	NA	✓	✓
Transmission and Distribution Network	Power Delivery	N/A	N/A	100%	✓	NA	NA	NA	NA	✓	✓
<b>Mainland China</b>											
Dali Yang_er	Power Generation	Hydro	49.8	100%	✓	NA	NA	NA	NA	✓	✓
Fangchenggang I	Power Generation	Coal	1,260	70%	✓	✓	✓	✓	✓	✓	✓
Huaiji	Power Generation	Hydro	129	84.90%	✓	NA	NA	NA	NA	✓	✓
Jiangbian	Power Generation	Hydro	330	100%	✓	NA	NA	NA	NA	✓	✓
Jinchang	Power Generation	Solar	85	51%	✓	NA	NA	NA	NA	✓	✓
Laiwu I	Power Generation	Wind	49.5	100%	✓	NA	NA	NA	NA	✓	✓
Penglai I	Power Generation	Wind	48	100%	✓	NA	NA	NA	NA	✓	✓
Qian'an I and II	Power Generation	Wind	99	100%	✓	NA	NA	NA	NA	✓	✓
Sihong	Power Generation	Solar	93.42	100%	✓	NA	NA	NA	NA	✓	✓
Xicun I and II	Power Generation	Solar	84	100%	Under Development	NA	NA	NA	NA	✓	✓
Xundian I	Power Generation	Wind	49.5	100%	Under Development	NA	NA	NA	NA	✓	✓
<b>India</b>											
Jhajjar	Power Generation	Coal	1,320	100%	✓	✓	✓	✓	✓	✓	✓
Paguthan	Power Generation	Gas	655	100%	✓	✓	NA	✓	NA	✓	✓
<b>Australia</b>											
Cathedral Rocks	Power Generation	Wind	66	50%	✓	NA	NA	NA	NA	✓	✓
Hallett	Power Generation	Gas	203	100%	✓	Nil	NA	Nil	NA	✓	✓
Mount Piper	Power Generation	Coal	1,400	100%	✓	✓	✓	Nil	Nil	✓	✓
Tallawarra	Power Generation	Gas	420	100%	✓	✓	NA	✓	NA	✓	✓
Yallourn	Power Generation	Coal	1,480	100%	✓	✓	✓	Nil	Nil	✓	✓

Remarks:

- NA - Not applicable to the type of operation.
- Nil - Not required by operational licence

- CEMS - Continuous Emission Monitoring System
- FGD - Flue Gas Desulphurisation



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## REGULATIONS AND COMPLIANCE

**We comply with all applicable laws and regulations and voluntarily follow other standards that go beyond legal requirements, reflecting the principles of our Value Framework.**

**Most Material Topic**  
Environmental Compliance

### OUR APPROACH

In our Value Framework, one of our core values is that CLP Respects Laws and Standards. We comply with all applicable laws and regulations and voluntarily follow other standards that go beyond legal requirements, reflecting the principles of our Value Framework.

 See Values – CLP Respects Laws and Standards.

On the business development side, we assess our potential environmental liability carefully before we commit to projects. CLP's Pre-Investment Environmental Risk Assessment process ensures that environmental liabilities are fully considered for every project as part of the approval process by the Investment Committee. We have recently strengthened our environmental due diligence process as part of the pre-investment risk assessment process.

We track regulatory compliance-related cases and report on confirmed cases of regulatory non-compliance where legal sanctions have been imposed. We also take all environmental incidents seriously, even minor ones, in order to identify and prevent precursors for potentially more serious cases.

We are regulated by formal environmental grievance mechanisms established by regulatory authorities. Our stakeholder engagement and public communications channels also allow for informal expressions of environmental grievances. Information received through these channels is managed locally and is currently not aggregated or reported at the Group level.



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## ENVIRONMENTAL REGULATORY COMPLIANCE

At our operating assets, we had two licence limit exceedances at Jhajjar Power Station in 2016 as shown in the table on this page. They were both related to particulates emissions and both were minor incidents which did not contribute to any penalties.

For the year ending 31 December 2016, there were no environmental non-compliances resulting in fines or prosecution at our operating sites. However, there was one environmental non-compliance at a construction project, Sandu I windfarm in Guizhou province where the construction of an access road and wind turbine platforms had resulted in a greater impact on the environment and forestry land than initially authorised. The local Forestry authority has imposed a sanction totalling RMB14 million as of the end of 2016. A site environment restoration programme has mostly mitigated the impact with some seasonal revegetation works to be carried out in 2017. Project management and technical procedures

have been enhanced to improve our future performance at this type of geographically difficult location.

## KEY EMERGING ENVIRONMENTAL REGULATIONS

We carefully track emerging environmental regulations in order to prepare for compliance as far ahead of time as possible. The following is an account on the new or upcoming environmental regulations that are relevant to our business.

### HONG KONG

We reported last year that the emissions caps imposed by the Hong Kong Environmental Protection Department will be more stringent for 2017, 2019 and 2020. This is an ongoing exercise with the caps subject to review at least once every two years. In 2016, the Department legislated a new set of emissions caps for 2021 and afterwards, in which air emissions levels will be reduced by 4% to 7% compared to the already stringent 2020 caps. Please refer to last year's report for details.

## Environmental Regulatory Non-Compliances and Licence Exceedances

	2016	2015	2014	2013	2012
Environmental regulatory non-compliances resulting in fines or prosecutions	0	1	1	0	0
Environmental licence limit exceedances & other non-compliances	2	13	3	4	1

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## MAINLAND CHINA

We reported last year that the Mainland Chinese Government's emissions control enhancement requirements for coal-fired power stations issued in 2013 for the period 2014-2020, will affect our operations at the Fangchenggang Power Stations in Guangxi Province. Moving forward, we have begun tendering to retrofit Phase I to ensure compliance by the end of this decade. Please refer to last year's report for details.

## AUSTRALIA


In February 2016, Australia adopted new ambient air standards for fine particles through a variation to the National Environment Protection (Ambient Air Quality) Measure. The new standards are among the most stringent in the world, and were introduced to reduce the risk to health from community exposure to fine particles in ambient air.

Victoria adopted the new standards on 28 July 2016. Victoria has adopted the NEPM (AAQ) standards apart from annual average for PM10, choosing to implement the more

stringent annual average of 20 µg/m3.

On 3 November 2016, the New South Wales Government released a Consultation Paper "Clean Air for NSW" on its proposed approach to policy and actions to improve the average air quality across NSW over the next ten years. The focus is on pollutants that have measurable health impacts and are monitored according to the National air quality standard (NEPM Ambient Air Quality). EnergyAustralia made a submission on 20 January 2017 supporting this aim for outdoor air quality that protects human health and well-being.

EnergyAustralia also made a submission on 23 December 2016 to a NSW Issues Paper that reviews the Environmental Protection Authority (EPA) Load Based Licensing Scheme. On all regulatory matters, EnergyAustralia prefers national consistency as opposed to differing State-based obligations, to minimise market distortion across Australia.

 See details in our last Sustainability Report.

## Carbon Related

Our assets currently do not operate in any locations where mandatory or voluntary carbon trading schemes are in place. However, we believe this will change in Mainland China and possibly Australia.

### Mainland China

There are seven pilot carbon trading schemes in Mainland China, and the Mainland Chinese Government announced it will implement a national emissions trading scheme in 2017. Cap-and-trade is one of the policies that the Government is implementing to support meeting its targets, including peaking its carbon emissions by 2030, lowering its carbon intensity by 60-65% by 2030 from the 2005 level, and having 20% of its energy coming from non-fossil fuels by 2030.

### Australia

The Australian Government is conducting a formal review of its Direct Action Policy commencing early 2017. The focus of the review will be to ensure that Australia is in a position to meet its international climate change commitments in 2030 and beyond, while maintaining energy security and affordability.

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## INTERNATIONAL AND NATIONAL STANDARDS

We monitor the developments in environmental standards to ensure full compliance with international and local laws. The following is an account on the material updates in environmental laws that are relevant to our business.

### AUSTRALIA

The Australian ambient air standards for particulates are more stringent than the US Environmental Protection Agency (USEPA) standards and the Australian PM2.5 annual average is even more stringent than the World Health Organisation (WHO) standard for PM2.5 annual average of 10 µg/m<sup>3</sup>.

### Comparison of Australian Particle Standards with USEPA standards

	Australia	USEPA
PM10 24hr standard	50 ug/m <sup>3</sup>	150 ug/m <sup>3</sup>
PM2.5 24hr standard	25 ug/m <sup>3</sup>	35 ug/m <sup>3</sup>
PM2.5 annual average	8 ug/m <sup>3</sup>	12 ug/m <sup>3</sup>

There are also a number changes in regulations that are directly related to our operations in various states in Australia.

#### Victoria:

A Variation to Ambient Air Quality NEPM (National Environment Protection Measures) was proclaimed which retains PM10 daily average of 50 ug/m<sup>3</sup> and introduces a new annual PM10 standard of 25 ug/m<sup>3</sup> and a PM2.5 daily average of 25 ug/m<sup>3</sup> and annual average of 8 ug/m<sup>3</sup> moving to 7 ug/m<sup>3</sup> by 2025.

Victoria's Environment Protection Authority (EPA) focussed on licence reviews of landfill conditions. It also conducted a Major Industry Assessment of Yallourn's Environment Management System (EMS) and licence compliance.

#### New South Wales:

The EPA issues environment protection licences to the owners or operators of various industrial premises under the Protection of the Environment Operations Act 1997 (POEO Act). Licence conditions relate to pollution

prevention and monitoring, and cleaner production through recycling and reuse and the implementation of best practice.

The risk-based licensing system aims to ensure that all environment protection licensees receive an appropriate level of regulation based on the environmental risk of the activity. This allows the EPA to better target regulatory efforts towards high risk and poor performing licensees. The system also provides financial incentives for licensees to improve environmental performance and compliance.

The load-based licensing (LBL) scheme sets limits on the pollutant loads emitted by the state's larger and potentially most polluting industries by linking licence fees to pollutant emissions. The LBL scheme also provides the infrastructure for emissions trading schemes. These enable emissions to be controlled from groups of licensees as well as from individual premises by allowing licensees to buy and sell credits for reducing emissions.

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## INDIA

As part of the Government of India's effort to overhaul existing rules and make them relevant, several Environmental rules were replaced with a new set of rules. These include:

1. Hazardous Waste Rules-2016
2. Bio-medical Waste Rules-2016
3. E-Waste Rules-2016
4. Plastic Waste Rules-2016
5. Solid Waste Rules-2016
6. Construction & Demolition Waste Rules-2016

Thanks to our best in class practices, none of these changes have any material impact on our operations.

However, a set of new statutory limits applicable to our coal-fired Jhajjar Power Station will become effective in December 2017, covering particulates, nitrogen oxides, sulphur dioxides, and mercury. There is also a water use intensity requirement. Jhajjar

Power Station is already equipped with environmental control systems to comply with most of these limits, and a cross functional team has been formed to prepare Jhajjar Power Station for meeting these new requirements.

## MAINLAND CHINA

The Standing Committee of China's National People's Congress passed Mainland China's first Environmental Protection Tax Law in late December 2016. This new tax law introduces a pollution tax as the main regulating instruction on regulating environmental pollution from businesses in Mainland China. It is likely to replace the existing pollutant discharge fee system.

This law is likely to result in more stringent monitoring of environmental emissions. The financial impact on businesses in Mainland China could be substantial under this new law, which will come into effect on 1 January 2018.





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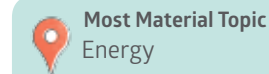
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## ENERGY

We are committed to using all resources, including fuel, water and other natural resources efficiently and conservatively, and to increase the use of renewable resources.



## OUR APPROACH

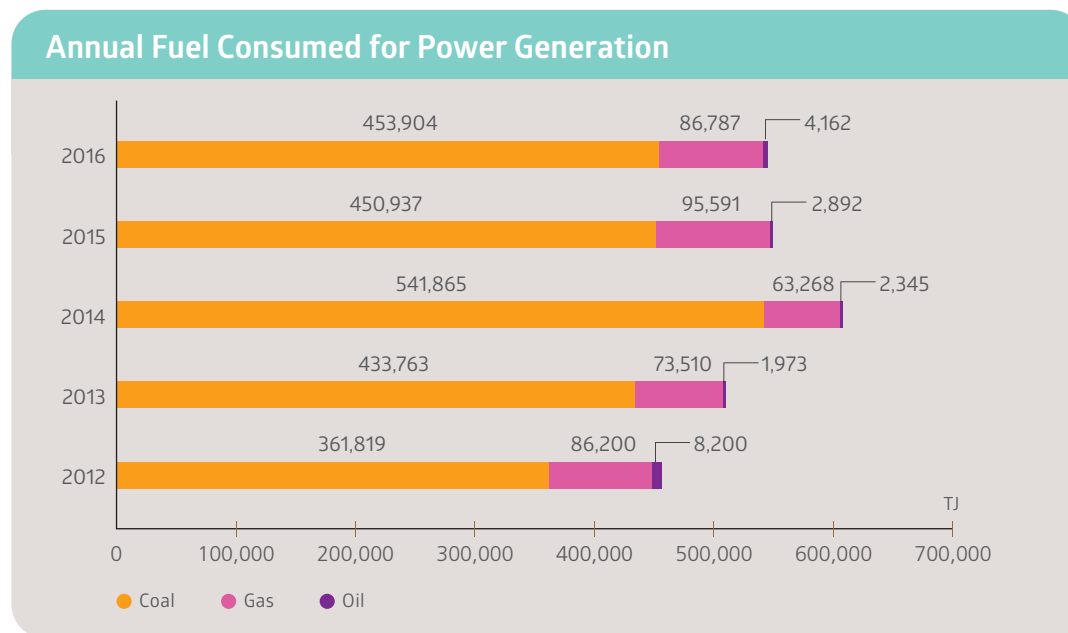
In our Value Framework, our Environmental Policy Statement commits us to use all resources, including fuel, water and other natural resources efficiently and conservatively, and to increase the use of renewable resources.

See Value Framework – Environmental Policy Statement.

We monitor and report on our annual energy use for power generation in our Sustainability Report.

## FUEL USE

In 2016, the total fossil fuel consumption for power generation was broadly stable compared to 2015. We used 0.7% more coal and 9.2% less gas in 2016, due mainly to less gas used in Australia as a result of the higher gas prices.



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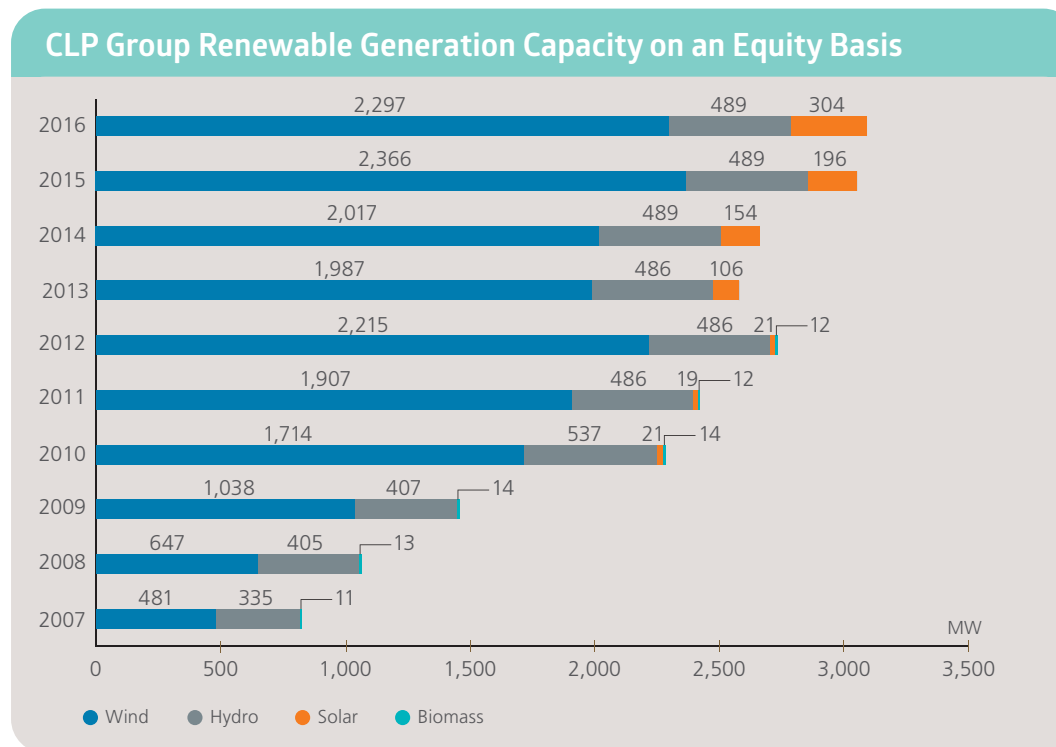
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## RENEWABLE ENERGY

In 2016, total renewable energy generation capacity and non-carbon emitting generation capacity were 16.6% and 19.2%, respectively, slightly lower than 16.8% and 19.5% in 2015, despite an increase in our renewable portfolio capacity, due mainly to the approval of a new gas generating unit at the Black Point Power Station in Hong Kong and a reduction in the capacity of the Yermala Wind Farm in India.

See our Climate Vision 2050 performance.

In 2016, we continued to expand our renewable energy generating capacity, summarised in the following table.



## 2016 Renewable Energy Projects

HONG KONG	MAINLAND CHINA	INDIA	AUSTRALIA
Continued connecting renewable projects to our grid, including: supporting the Drainage Services Department to build Hong Kong's biggest solar farm of 1.1MW near the airport; and applying for Hong Kong's largest landfill gas power generation project that will produce 10MW of renewable power. After more than a decade, we now have more than 250 renewable energy systems connected to our grid.	Added capacity of 275MW in renewable energy, including 230MW of wind and 45MW of solar, increasing the size of our renewables portfolio in Mainland China to over 2,000MW.	Began construction of our maiden 100MW Veltor Solar Farm in Telangana, which is expected to be commissioned by mid-2017, with CLP owning a 49% stake with an option to acquire the remaining 51% in the future.	Committed to the development of up to 500MW of new wind and solar energy projects across eastern Australia, to meet our obligations under the country's Renewable Energy Target.

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## GREENHOUSE GAS EMISSIONS

We are committed to developing and implementing strategies to address renewable resources and global climate change as key issues for the energy sector.



### OUR APPROACH

In our Value Framework, we have committed to develop and implement strategies to address renewable resources and global climate change as key issues for the energy sector.

 See our Value Framework.

We report on our emissions on an annual basis in the Sustainability Report.

### TRANSITION TO A LOW CARBON ECONOMY

With the Paris Agreement officially entering into force in record time in 2016, governments, businesses, organisations, and communities around the world have rallied together to address the imminent challenges of global warming.

In 2007, we voluntarily pledged to reduce the carbon emissions intensity in the Group's portfolio by 75% by 2050, and meet some interim targets along the way. In 2010, we tightened the 2020 carbon intensity target and set ourselves a new 2020 renewable energy target:

- 28% + reduction in carbon intensity from 2007 level; and
- 20% renewable energy in our generating portfolio.

### REVIEWING OUR EMISSIONS REDUCTION ROADMAP

While we initially planned to review our roadmap once the Intergovernmental Panel on Climate Change releases its new emissions scenario projections in 2018, we now consider it appropriate to start the review a year earlier given the successful ratification of the

Paris Agreement, as well as the release of the recommendations of the Task Force on Climate-related Financial Disclosures by the Financial Stability Board in December 2016.

Our Group's carbon intensity slightly increased to 0.82kg CO<sub>2</sub>/kWh from 0.81kg CO<sub>2</sub>/kWh in 2015. It was mainly due to increased output from Mount Piper and Yallourn power stations and decreased output from Tallawarra Power Station in Australia. The significant increase in generation from less efficient coal plants and decrease in output from a more efficient gas one in Australia meant more carbon emissions were emitted per unit of electricity sent out, thus causing a slight increase in the Group's intensity.

The Group's total carbon emissions were at a similar level to that of last year's. Lower output from the Jhajar Power Plant in India and Tallawarra Power Station in Australia were offset by the increase in output from

Mount Piper and Yallourn in Australia, thus leading to the Group total carbon emissions being similar to last year.



Decarbonising our generation portfolio addresses SDG#13: take urgent action to combat climate change and its impacts.

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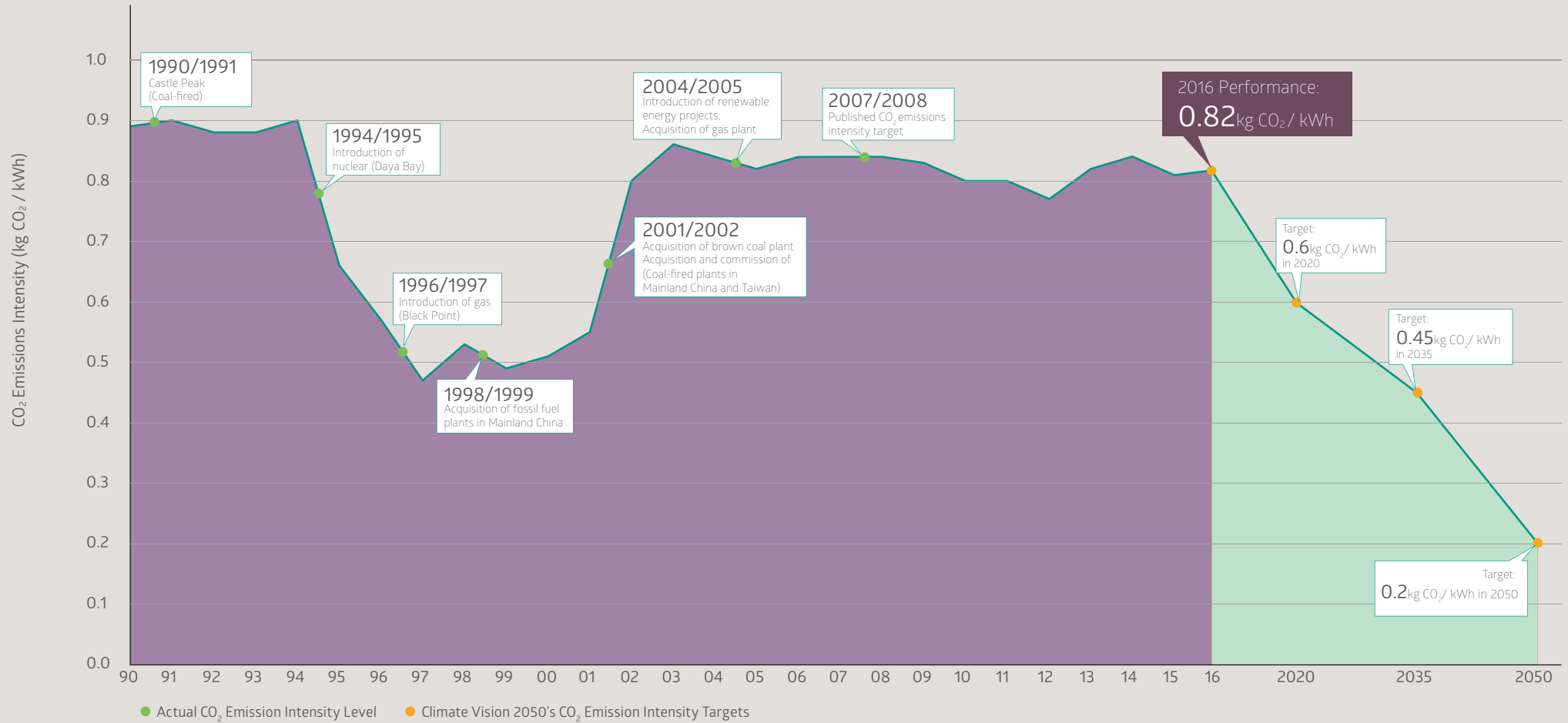
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## CLP Group CO<sub>2</sub> Emissions Intensity



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Meanwhile, the share of renewable energy and non-carbon emitting energy in our portfolio decreased to 16.6% and 19.2% respectively, as mentioned in the Renewable Energy section.

In the Asia-Pacific region where CLP operates, energy security, access and affordability remain the key priorities supporting the continued development of fossil-fuelled assets. While this makes it challenging for us to achieve our emissions reduction targets, we remain committed to our interim and long-term goals. CLP continued to grow our renewable energy portfolio with the construction of new projects in Mainland China. In 2016, we added 275MW of new renewable energy capacity to our operating portfolio. We also announced our intention to enter into Power Purchase Agreements (PPAs) to underpin the development of up to 500MW of new renewable energy projects in Australia.

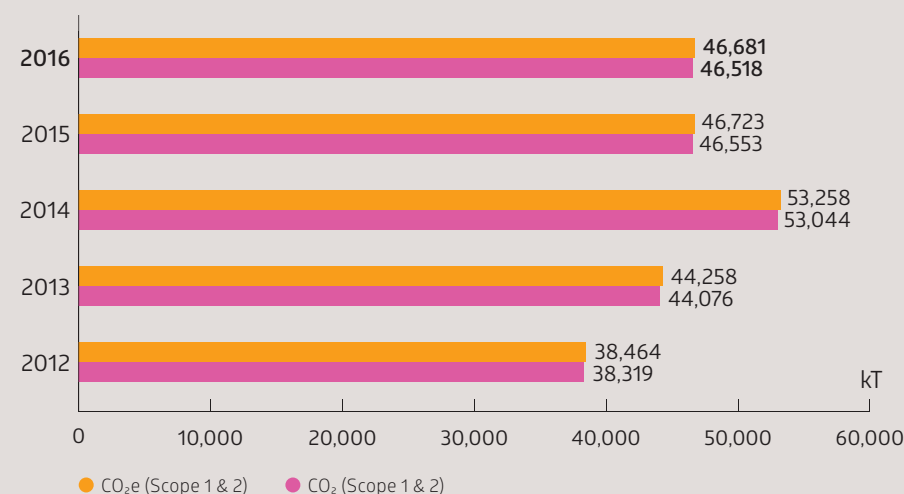
In parallel with our decarbonising strategy, we are determined to ensure that the transition will not result in denial of access to an affordable and reliable electricity supply that is essential for social and economic development and stability. For the emerging economies in which we operate that require new coal-fired power stations to meet their development needs, we see a continuing but limited role for us. If we develop such facilities, we commit to utilising technology to achieve the highest possible efficiency, while continuing our investment in renewable energy. We have begun to explore the use of new financing tools such as green bonds and are looking for ways to increase our involvement in renewable-related procurement arrangements where possible.

 Read more about our portfolio changes and clean energy projects announced or committed.

## CLP's Progress Towards 2020

	CO <sub>2</sub> Emissions Intensity	Renewables	Non-carbon Emitting
2016 Performance	0.82kg CO <sub>2</sub> / kWh	16.6%	19.2%
2020 Target	0.6kg CO <sub>2</sub> / kWh	20%	30% (inclusive of renewables)

## Greenhouse Gas Emissions from Power Generation





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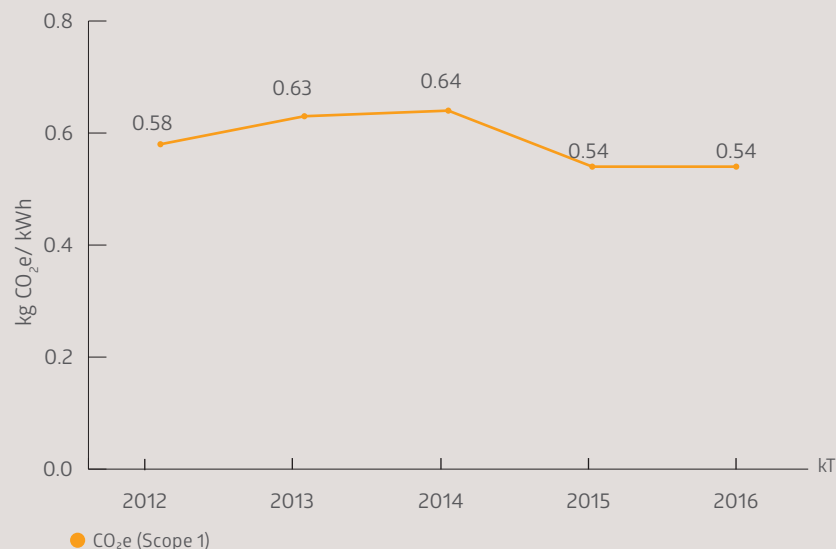
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## 2016 HONG KONG CARBON INTENSITY

**We are committed to reducing our own carbon emissions and to supporting our customers and the community on their low carbon journeys as well.**

The carbon intensity of the electricity used by our customers in Hong Kong in 2016 was 0.54 kg CO<sub>2</sub>e/ kWh, similar to 2015 (i.e. 0.54 kg CO<sub>2</sub>e/ kWh). This was a result of maintaining the increased consumption of natural gas and the reduced coal consumption to meet the Government's emissions requirements in Hong Kong, plus maintaining the increased output from Guangdong Daya Bay Nuclear Power Station (GNPS) in Mainland China.

### CO<sub>2</sub>e Emissions Intensity of Electricity Sold by CLP Power Hong Kong



### CLP Online Carbon Credit Sales Platform

Apart from continuing our efforts in reducing our carbon footprint, we believe it is equally important to assist our stakeholders on their decarbonisation journeys.

In 2017, we plan to launch an e-commerce platform that allows users to purchase carbon credits online, in the hope of making it easier for individuals or organisations to offset their carbon emissions. We believe a price on carbon is inevitable. Therefore, offsetting unavoidable emissions is one way to begin incorporating a potential price on carbon into the financial planning and budgeting process for an individual or an organisation. This will be the last component of the three-step range of solutions we plan to offer our stakeholders to assist them in their journeys towards achieving net zero carbon emissions. The solutions are prioritised as:

1. reducing energy use first;
2. transitioning towards using energy generated with low or no carbon emissions next, and
3. offsetting the remaining or unavoidable emissions last.

### EnergyAustralia's Go Carbon Neutral

At EnergyAustralia, customers can now get 100% carbon neutral electricity in their home at no extra cost. For customers who opt for carbon neutral electricity, EnergyAustralia purchases carbon offset units which support projects that reduce emissions, such as renewable energy projects in developing countries, or land management and tree planting in Australia, to offset the amount of carbon they release into the atmosphere.

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## AIR EMISSIONS

We ensure that all key environmental impacts are identified and managed in a responsible manner, and air emissions is one of our top priorities.



### OUR APPROACH

Air emissions remain as one of the most material environmental aspects of our generation portfolio. Although our overall air pollutant emission intensities have reduced because of our expanding nuclear and renewable energy portfolio, the net emissions from our fossil-fuel power stations is still an issue high on our agenda.

We take great care in conducting our environmental impact assessments (EIA), and are fully committed to fulfilling the requirements and recommendations stipulated in the EIA reports and local regulations. We also go beyond compliance in less developed countries where regulations are not as mature. Our internal Power Station Air Emission Limits Standard stipulates a set of air emission requirements that all our new power stations will adhere to as a minimum, and these levels were set with reference to

international standards. This means if there is a lack of local emissions regulations or the levels are not as stringent as our internal standard, we are committed to go beyond the local requirements.

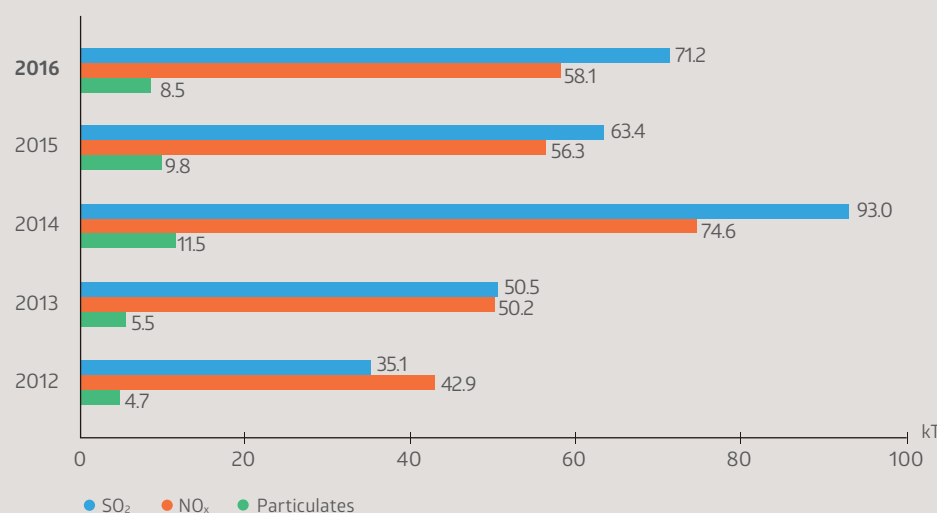
Apart from incorporating state of the art air emissions mitigation measures in our power stations, we also design our new power stations with advanced power generation technologies in order to generate electricity as efficiently as technology allows, thus lowering the amount of emissions.

- more generation from Mount Piper power station in Australia (with less output from our Australian gas-fired assets); and
- improvement in particulates control and less generation from Jhajjar.

### PERFORMANCE

Group emissions of SO<sub>2</sub> and NO<sub>x</sub> in 2016 compared to 2015, increased by around 12.3% and 3.2% respectively while particulates decreased by 13.3%. This was mainly due to:

#### Annual Air Emissions



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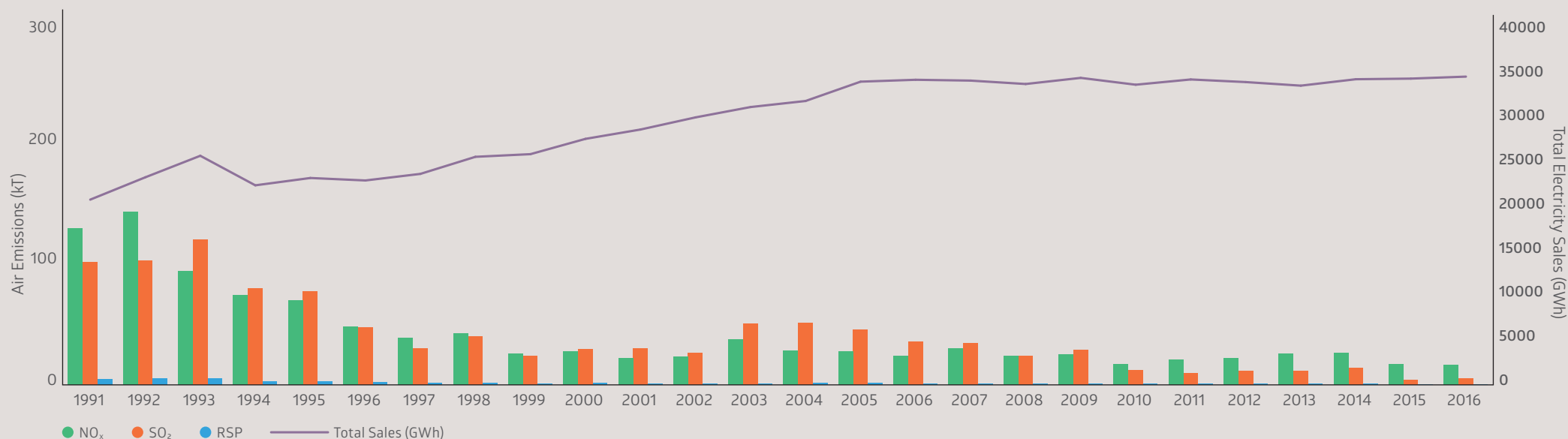
## HONG KONG

Our effort to reduce our air emissions dates back to 1990. A reduction of more than 85% in emissions of SO<sub>2</sub>, NO<sub>x</sub> and Respirable Suspended Particulates (RSP or PM<sub>10</sub>) has been achieved since 1990, while electricity demand has grown by over 80% during the same period.

In 2016, we managed to meet the stringent emissions caps set out by the Government, which are the same as 2015 levels requiring CLP to reduce its SO<sub>2</sub>, NO<sub>x</sub> and RSP emissions by up to 65% from 2014 levels. We continued our efforts to consistently deliver a reliable, safe and reasonably priced electricity supply with sound environmental performance.

We continue to improve our operations to help benefit the environment. For example, Black Point Power Station initiated a performance improvement project for the first combined cycle gas turbine unit, increasing its generation capacity by 25MW and enhancing the nitrogen oxides emissions performance. The success of this trial paves the way for additional units to progressively be upgraded in coming years to realise the full potential for environmental performance improvement and capacity increase.

### CLP Power Hong Kong Air Emissions and Total Electricity Sales since 1991



Note:  
The electricity sales data from 1990 - 1998 is on a financial year basis ending 30 September. The 1998 data covers the period 1 October 1997 - 30 September 1998 and the 1999 data covers the period 1 January 1999 - 31 December 1999.

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## Hong Kong

### Our Fuel Mix Strategy in Hong Kong

A diversified fuel mix is crucial for energy security and helps us to maintain a balance between meeting emissions caps requirements and mitigating fuel cost pressure. In 2016, we continued to optimise our diversified fuel mix which consists mainly of coal, nuclear and natural gas. We increased the usage of gas as well as low-emissions coal in order to meet the stringent emissions requirements.

In March 2015, in the public consultation on future development of the electricity market, the Hong Kong Government announced a new policy objective, which is to increase Hong Kong's percentage of local gas generation to around 50% of the total fuel mix by 2020. To support this fuel mix direction, in 2016 CLP obtained Government approval for the construction of a new 550MW gas-fired generation unit at the Black Point Power Station. Construction work has started and we aim to commission the new unit before 2020.

In addition, we continued our discussions with the Government and other stakeholders regarding the proposal to build an offshore liquefied natural gas terminal in Hong Kong waters. The terminal will enable us to have direct access to a range of gas sources from around the world and strengthen the reliability of Hong Kong's fuel supplies. We are progressing with various studies under the environmental impact assessment of the project, and are proactively engaging with potential suppliers to secure the additional supply of gas needed on a long-term basis. A final investment decision is expected by the end of 2018.

Meanwhile, to cater for gas demand in the near term, we are working closely with CNOOC China Limited to link the new Wenchang gas field currently under development in the South China Sea, to our existing pipeline to bring gas to Hong Kong from 2018 onwards, as supply from the Yacheng gas field further declines.

In early 2017, the Government announced a new carbon intensity reduction target. By 2030, Hong Kong will lower its CO<sub>2</sub> emissions per unit of GDP by 65% to 70% from the 2005 level. According to the Government, Hong Kong will phase down coal-fired electricity generation and have more natural gas and more non-fossil fuels in the fuel mix in order to meet this target. CLP will carefully study the plan and engage with the Government on the way forward.



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## India

### Going Beyond Compliance in India

We have had a more stable year in our Indian operations in 2016, in terms of environmental emissions. The particulates emissions levels were within statutory requirements. However, we are continuing our effort in reducing the emission levels during start up and shut down conditions, which are technically challenging because of the limitations of the emissions control equipment.

Within our portfolio, India has a relatively lower level of regulatory control on environmental matters. For example, our Jhajjar coal-fired power station has only been regulated on particulates emissions, but not other air pollutants. Although this particular situation is due to change with the new regulations covering SO<sub>2</sub>, NO<sub>x</sub> and other environmental parameters, such as mercury and water intensity coming into effect at the end of 2017, certain environmental protection initiatives remain voluntary. The exemption of environmental impact assessment for renewable energy projects is a case in point.

In CLP, we always look for opportunities to be in a leadership position, and that often means going beyond compliance, or meeting more stringent requirements ahead of time. In 2016, we performed a comprehensive Environmental & Social Impact Assessment (ESIA) for our first solar power station project in the Haryana state, and have committed to fulfilling all the recommendations that came out of the assessment.

We believe this is an important approach because environmental damage is often more difficult to fix retrospectively, and hence proactive environmental mitigation will help us manage our impact as effectively as we can. Through these 'beyond compliance' initiatives, we are also able to advance capacity building in environmental awareness and skills, which might otherwise be at a lower level locally.





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## WATER

**We are committed to using all resources efficiently and conservatively, including water, which is required for most types of power generation.**

### OUR APPROACH

Our power generation portfolio uses water in a variety of ways. At fossil-fuelled power stations, it is used as process water and for cooling. It is also the main element for power generation in hydro power stations. At other renewable energy power stations, such as wind and solar, the use of water is on a much smaller scale, but still essential for some processes, e.g. routine cleaning.

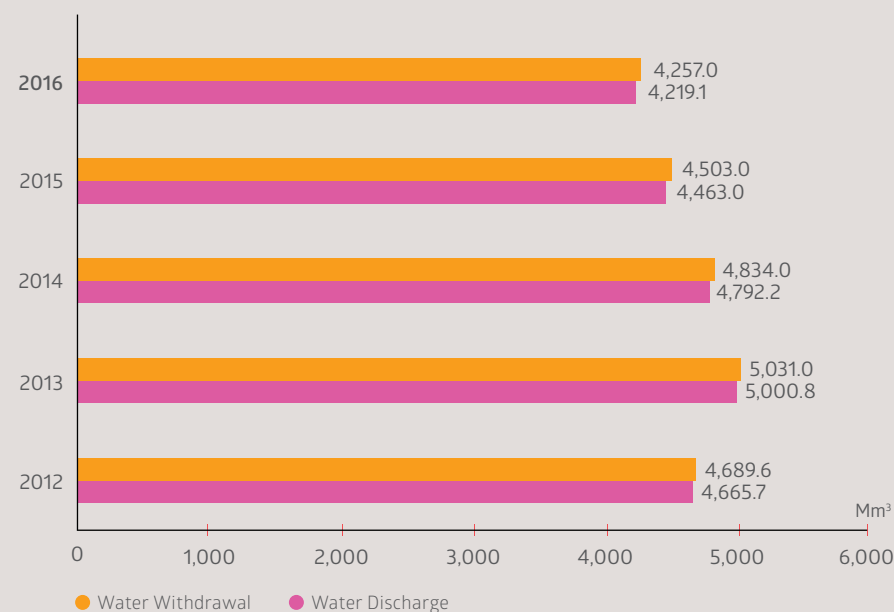
We conducted an in-depth assessment on water risk throughout our portfolio in 2016. The assessment covered parameters such as water availability, water sensitivity, water stress mapping, potential competing use with other stakeholders, and the management strategies in place in each of our regions. The results of the assessment indicated that we have a sufficiently robust management regime in managing our water risks. We will continue

to monitor our water use, and manage this precious resource efficiently.

### WATER CONSUMPTION

The largest volume of water we withdraw from water bodies is for cooling purposes and this is confined to our fossil fuel-based power stations. However, the majority of this water is discharged back to source after appropriate treatment to minimise the environmental impact.

#### Annual Water Withdrawal and Discharge



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Our facilities monitor their total water withdrawal and discharge. The water intensity of our power generation process increased from 1.04 m<sup>3</sup>/MWh in 2015 to 1.05 m<sup>3</sup>/MWh in 2016. This was within normal general fluctuations.

**102-48** The amount of water we are able to recycle depends on factors such as location, power station design, and regulatory requirements. We encourage our power stations to track their total water recycling and report them for indicative purposes. The scale of the recycled volume for 2016 has been adjusted from previous two years because we have discovered a discrepancy in the recycled water volume at Mount Piper Power Station this year. We hereby provide an updated representation of water recycled volume in the past three years.

## WATER AVAILABILITY

Regarding water availability, we manage our water resource risks through a number of means. We assess the water availability in the planning stage of projects including the likelihood of water scarcity in the

future. During operations, we ensure that all requirements and necessary engagements with local stakeholders are in place to maintain our licence to operate.

As a result of the water treatment processes we have put in place at our power stations, none of our operations significantly impact the respective water receiving bodies.

## WATER CONSERVATION

Water is a resource essential to life and has received much global attention. Our power stations, in particular our fossil-fuel fleet which uses more water, have carried out a range of water conservation initiatives depending on site-specific conditions, operational situations and age of the plant.

We also place high emphasis on sharing initiatives across CLP Group in order to maximise the benefit of an individual power station's efforts. Jhajjar Power Station formed a cross-functional team to conduct a study on water management. Study findings were presented in a sharing session with participants from all CLP operating regions.

## Water Intensity of Our Power Generation Process (m<sup>3</sup>/MWh)

2016	2015	2014	2013
1.05	1.04	1.01	0.86

## Water Recycled Volume (Mm<sup>3</sup>)

2016	2015	2014
782	619	785

## Water Conservation Initiatives

Some new initiatives in 2016 were:

- **Jhajjar Power Station, India** – Flue Gas Desulphurisation (FGD) wastewater separation system was optimised to prepare for its full operation towards the end of 2017;
- **Fangghenggang Power Station, Mainland China** – high and low chlorine ion wastewater were collected and stored separately, then used as cold hopper and desulphurisation process water. The annual recoverable water was about 70,000 m<sup>3</sup>.
- **Mount Piper Power Station, Australia** – EnergyAustralia and Centennial Coal announced an enhancement to an existing proposal to build a water treatment plant to support an extension of the Springvale Mine. The mine is the key source of coal supply for Mount Piper and the enhancement will improve the environmental outcomes of the water project and ensure significant long-term investment in the local community.

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## WASTE

**We endeavour to reduce the waste we produce and work with qualified parties and partners to reuse or recycle our waste as much as we can.**

### OUR APPROACH

The nature of our power stations, as well as the different stages of our power generation process, produces different types and volumes of waste. Broadly speaking, the volume of solid and liquid waste we generate is relatively small, and the volumes correlate with our level of activities. Projects that involve demolition and construction will produce more inert waste. The volume of hazardous waste we produce is stable.

We approach waste management in a number of ways. We try to avoid the use of hazardous materials and use alternatives where possible. We find ways to reduce the volume of waste and we recycle and reuse as much as possible. At our coal-fired power stations, the most significant amount of waste generated is coal ash from coal combustion and gypsum from the flue gas desulphurisation process.

#### Waste Management

Our power stations run different programmes in dealing with waste. Some examples are as follows:

- Some of our older power stations have used materials which were at first deemed efficient, but later classified as hazardous. For example, at Castle Peak Power Station, we have been replacing our HCFCs in air conditioners and HVAC chillers in a rolling programme. Thirty-three air conditioners and four chillers were replaced in 2016.
- At Jhajjar Power Station in India, an oil dispensing and storage system was installed in December 2016 for on-site filtration of used oil. This will help in reducing the volume of hazardous waste oil generated by increasing the lifespan of the oil.

We also initiate educational initiatives to build capacity at our power stations, for both our own colleagues and contractors. For example, Yallourn Power Station has a programme of awareness and education focussed on correct segregation of wastes for recycling and disposal that aims to promote a culture of reducing and recycling of wastes. The focus is particularly on major outages with education directed at contractors, as this is where issues typically occur.



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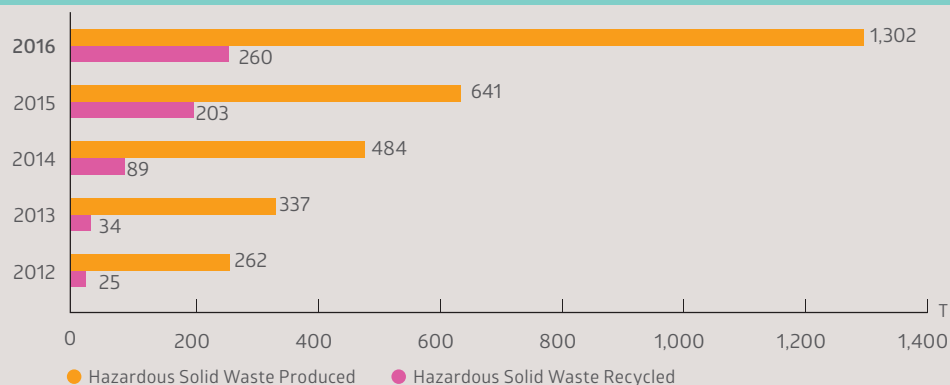
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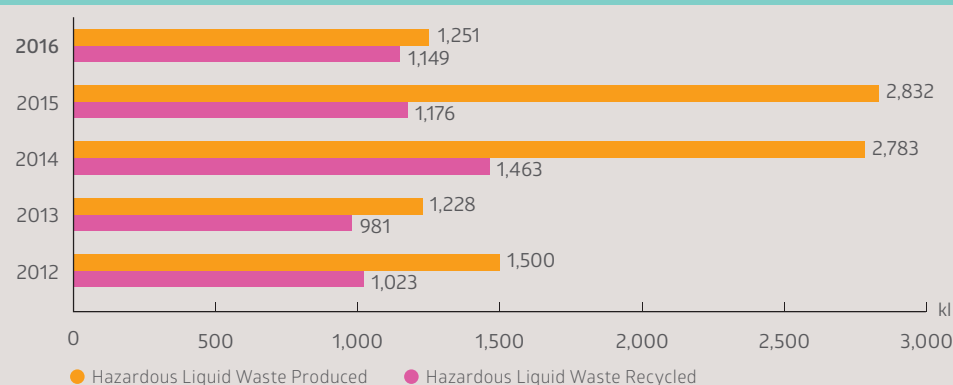
## HAZARDOUS & NON-HAZARDOUS WASTE

We monitor our waste generation by tracking the amount of both solid and liquid forms of hazardous and non-hazardous waste produced and recycled by our facilities on an annual basis. See the following charts on the hazardous and non-hazardous waste produced in 2016. All hazardous waste is transported locally for disposal according to local regulations, collected by licensed collectors, or sold for reuse. No significant spills were reported in 2016.

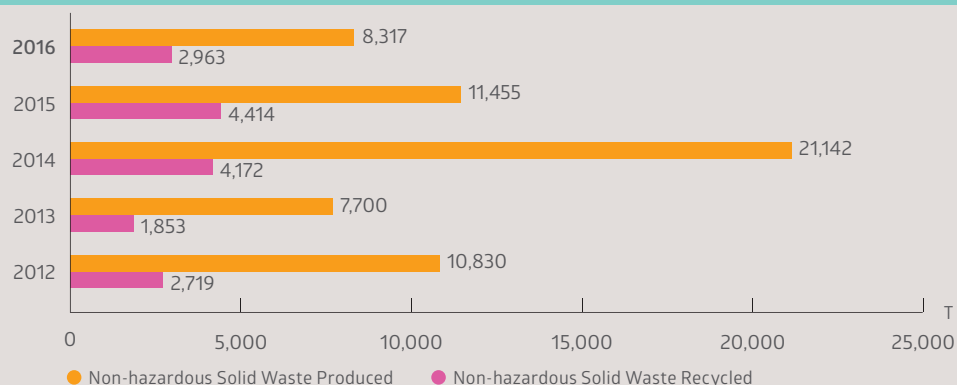
### Hazardous Solid Waste Produced and Recycled



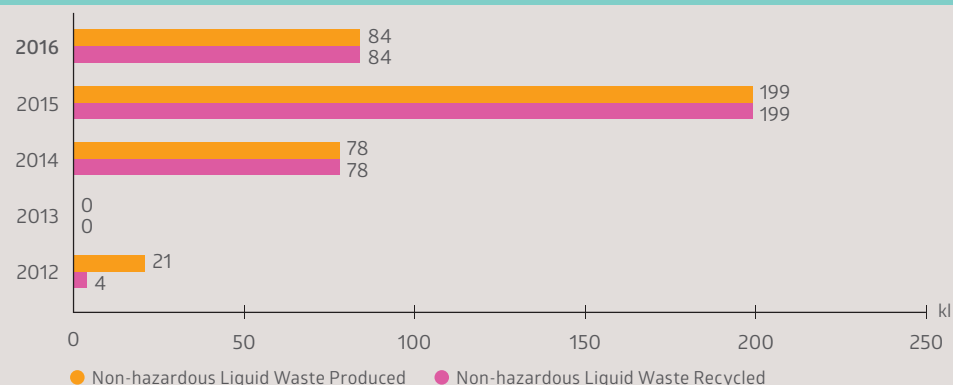
### Hazardous Liquid Waste Produced and Recycled



### Non-hazardous Solid Waste Produced and Recycled



### Non-hazardous Liquid Waste Produced and Recycled



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## WASTE RECYCLED

In 2016, the amounts of ash and gypsum recycled or sold were 1,111 and 134 kilotonnes respectively. The amounts of coal ash recycled or sold in 2016 are presented on this page.

## NUCLEAR WASTE

In accordance with national policy and international practices, Guangdong Daya Bay Nuclear Power Station (GNPS) stores its spent nuclear fuel onsite in a dedicated storage pool for each reactor for a number of years before passing it to a service provider licensed by the Mainland Chinese Government for reprocessing. The operation of the service provider is supervised by the National Nuclear Safety Administration (NNSA) and its environmental impact is monitored by the Ministry of Environmental Protection (MEP). The policy in Mainland China on reprocessing spent nuclear fuel is similar to that of a number of European countries.

Intermediate to low-level solid radioactive waste arises from operational processes and technical maintenance of the systems and equipment at GNPS. The waste is packed and

stored in a dedicated facility onsite on an interim basis, and is provided with security to prevent unauthorised access. The waste will be transferred to a final repository operated by a separate service provider away from GNPS, using the shallow burial method, which is commonly adopted in the United States, France and the United Kingdom. The operation of the repository is expected to come under the supervision of the national nuclear regulator according to the relevant nuclear safety regulations.

As a minority shareholder of GNPS, CLP is not in the position to report the mass or inventory of high level radioactive waste (HLW) from reprocessing of the spent fuel from the plant, as this is the responsibility of the licensed service provider. The licensed service provider is obliged to dispose of HLW safely as required by the Chinese authorities.

The quantity of spent nuclear fuel produced by GNPS for the past several years is presented here. Quantities were similar in 2012, 2014 and 2015 as there was only one planned refuelling outage, while there were two in 2013 and 2016.

## Levels of Ash and Gypsum By-Products Recycled and Sold Kilotonnes(kT)

	2016	2015	2014	2013
Ash	1,111	1,587	1,663	1,334
Gypsum	134	143	166	222

## Spent Nuclear Fuel Tonnes(T)

	2016	2015	2014	2013	2012
Spent Nuclear Fuel	71.1	37.7	33.5	69.1	37.7

## Intermediate to Low Level Radioactive Nuclear Waste Cubic Metres(m<sup>3</sup>)

	2016	2015	2014	2013	2012
Intermediate to Low Level Radioactive Nuclear Waste	90	94	124	128	109



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## BIODIVERSITY

**We manage our biodiversity impacts on a site-specific basis since our operations have different levels of interaction with the local ecosystems, depending on factors such as location, the level of development in the vicinity and the surrounding environment.**

### OUR APPROACH

The regions we operate in face very different levels of regulatory controls on biodiversity, from assessment requirements to ecological compensation. Last year, the Hong Kong Government finalised its Biodiversity Strategy and Action Plan (BSAP). In our projects in Mainland China, we have also been facing increased attention on biodiversity conservation. We welcome a stronger regulatory regime, as it provides a level playing field for companies such as ourselves who have always tried to move beyond compliance. This is because the additional effort often comes at a higher cost for us. A clearer regime helps reduce regulatory risk especially in a subject such as biodiversity which is often less well understood by the public.

In addition to implementing an internal Environmental Impact Assessment standard that mandates an environmental assessment for all new projects, a Biodiversity Impact Assessment Guideline has also been implemented. Hence, any new operations that could affect IUCN Red List species and national conservation list species would be flagged well before any investment decision is made.

We developed a detailed internal guideline on Biodiversity Impact Assessment because we believe that to properly address our biodiversity impacts, we need to conduct biodiversity impact assessments in a more systematic and accurate manner. We continue to face the challenge in finding local expertise, but we are gradually improving the quality of our biodiversity assessment.

### OUR EFFORTS

In our past reports, we have described our work on biodiversity across the Group. Some of these efforts have become ongoing activities, such as the vegetation management work along our transmission lines in Hong Kong, the fish management regime in place at our Jiangbian Hydro Power station in Mainland China, as well as the bird cataloguing work by Paguthan Power Station in India.

For our transmission and distribution network in Hong Kong, biodiversity within protected areas is particularly material. Protected areas include country parks, marine parks and the Mai Po Natural Reserve (a RAMSAR site), which are identified as having high biodiversity value. We have a total of about 104 km of 400kV overhead lines in designated

country parks and the Mai Po Natural Reserve (about 52 km in length). A series of ordinances regulate and guide our design, construction and decommissioning work and the equipment used in these areas to minimise impact to the surrounding ecosystems.

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A skilled and sustainable workforce is the engine of value creation for our stakeholders

For 2016, the following most material topics relevant to this chapter were identified:

### *Occupational Health and Safety*

Healthy employees are more likely to be more productive and less prone to safety incidents.

### *Employment*

Our people are key to our performance. Having the best people creates a strategic and competitive advantage for our business.

### *Diversity and Equal Opportunity*

Diversity, in gender, age and culture, increases our organisation's flexibility and responsiveness. The diversity of our broader workforce is important, both as a reflection of the different communities in which we operate, and because a sustainable workforce requires a broad base of recruitment. Workforce diversity also supports the capability for innovation.

### *Human Rights Assessment*

We recognise that our corporate responsibility to respect human rights extends to our network of suppliers and contractors.

### *Non-discrimination*

A work environment free of discrimination on the basis of gender, physical or mental state, race, nationality, religion, age or family status, supports equal opportunity and diversity.

### *Labour / Management Relations*

We respect and comply fully with all legal requirements in regards to union membership and collective bargaining in the countries we operate in. Our management philosophy is that the most appropriate way to engage with our colleagues is through direct communication rather than through intermediary organisations.

### *Training and Education*

Given the fast-changing technologies and business environment, building the capability of our workforce helps our business adapt and deliver high quality products and services.



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## INTERVIEW WITH THE CHIEF HUMAN RESOURCES OFFICER

### ? What were the highlights for you in 2016?

In 2016, we agreed three priorities to increase gender diversity: women in Leadership, women in engineering, and gender pay equity. To support these priorities we introduced a gender metric into our succession planning process, recruited female apprentices in Australia and Hong Kong, carried out gender pay equity audits and established a Group-wide female engineers network. We also increased our paid maternity leave in Hong Kong from 10 to 14 weeks and paternity leave from 5 to 10 days.

Given increasing pressure on pension schemes from global demographic and economic trends, we reviewed the sustainability of our Hong Kong defined contribution scheme and increased the employers matching contribution scale to help our staff make adequate savings for retirement.

We continued to build the capabilities needed to meet the challenge from digital disruption. A Senior Director of Innovation was recruited and an Innovation Team established with senior staff seconded from various parts of the business. These staff will lead specific innovation projects, and then return to their business units in order to ensure cross-fertilisation of innovation skills into the broader organisation.

### ? What were the key challenges in 2016?

From a human capital perspective, the major trends affecting us are demographic and social changes and digitalisation of the energy sector. To face these challenges we need a diverse, agile and sustainable workforce. To support this, we have been working on gender diversity, competitive benefits, organisational agility and ensuring the human rights of employees in our contractors are respected. Each of these areas has its own set of challenges. With gender diversity, we face supply constraints due to the global shortage of females studying STEM subjects at school and university.

For contractors, our extended supply chains and use of sub-contractors presents issues of information transparency and controls over employment practices.

### ? What keeps you awake at night?

We make extensive use of contractor labour in India, Hong Kong, and Mainland China, but as these are not our direct employees, we have limited understanding over the numbers of people involved, their gender and their contractual terms and working conditions. What keeps me awake is the risk of a significant abuse of internationally recognised human rights taking place in our contractor workforce. To address this risk, in 2016, we commenced our first Human Rights due diligence exercise with the Danish Institute for Human Rights.

### ? How can we prepare for the future?

In this complex environment, the diversity of thinking, background and tenure of our leadership group strengthens our decision making capability and helps us to be agile and resilient in the face of new challenges. The diversity of our broader workforce is also important, as a reflection of diversity in the societies in which we operate and because a sustainable workforce requires us to maintain a broad base of recruitment. How we approach diversity recognises that we operate in countries with diverse social and cultural contexts. This means we are sensitive to differences in culture, values, traditions and religions. Regardless of differences, the most significant and common diversity issue we face across the Group is gender diversity. Demographic trends mean that there is a clear business case for making this our priority. As gender equality is embedded in the UN Guiding Principles on Business & Human Rights and in the UN Sustainable Development Goals, the social and economic case for making it a priority is also clear.



Roy Massey  
Chief Human Resources Officer of CLP Group

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## HEALTH, SAFETY, SECURITY AND ENVIRONMENT

**We are committed to protecting people's health, preventing incidents and injuries and minimising adverse environmental impacts as a part of our daily operations, with the goal of achieving safe, secure and environmentally responsible operations.**

### OUR APPROACH

In our Value Framework, one of our core values is that CLP Cares for People, providing a safe, healthy and fulfilling work environment for our employees. In addition to our Occupational Safety and Health Policy Statement, we have also made commitments on Occupational Safety and Health, Environment and Governance, which include having policies and practices that address issues on occupational safety and health, as well as implementing suitable systems and controls to manage and monitor our compliance with these policies, as well as our performance and risks.

See Value Framework – Occupational Safety and Health Policy Statement.

The Group level Health, Safety, Security and Environment (HSSE) Management System Standard has been implemented since August 2014. The Standard enables our regional organisations to incorporate HSSE requirements into their business programs. This allows us to continue to maintain high standards in health, safety, security and environment, and provides a platform for continuous improvement. It also promotes and encourages compliance with the international standards for Health & Safety and Environmental Management such as, OHSAS 18001 and ISO 14001. The system is executed through a set of Standards and Guidelines to meet the requirements of the Policy Statements set out in the CLP Value Framework.

The HSSE Management System Standard is composed of 15 elements:

- HSSE Leadership
- Occupational Health and Safety (OHS) Management
- Plant Integrity
- Security Management
- Environmental Management
- Hazard Identification, Risk Assessment and Control
- Management of Change
- Personnel Training and Competence
- Communication and Promotion
- Documentation and Information Management
- Contractor Management and Purchasing
- Emergency Preparedness and Response
- Incident Management
- Performance Monitoring and Reporting
- Periodic Review and Improvement

See CLP Group's HSSE Management System Standard.





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## HEALTH

The HSSE Management System Standard lists out our expectations on HSSE for the CLP Group. The second element in the HSSE Management System Standard outlines CLP's objectives for Occupational Health and Safety (OHS) Management. This element asserts that the achievement of the highest level of Health and Safety performance requires careful selection, training and placement of personnel and provision of proper tools, equipment, personal protection, clear performance standards, and safe work instructions and procedures.

All significant health incidents are reported according to the Incident Management process and the statistics to be included are stipulated in the CLP Group Performance Monitoring and Reporting Standard. We also report on the number of occupational diseases, although we do not have any workers involved in occupational activities who have high incidence or high risk of diseases related to their occupation.

In 2016, several Guidelines relating to occupational health were developed at the Group level, which include: Fitness to Work Guideline, Medical Emergency Response Plan, Communicable Disease Management and Hearing Conservation, which serves as an advisory document to assist Assets to achieve the goal of operating without harm to people.

In addition, we conducted regular health talks on topics which are of interest to our employees, for example Balancing Work and Life. We also issued health alerts related to health issues and diseases, e.g. Zika virus, seasonal flu.

## SAFETY

For decades, a "Safety Comes First" culture has guided CLP well. Our goal is zero injuries in all our operations and safety is always our top priority wherever we do business.

### Governance

The HSSE Management System forms a synchronised approach to improving our safety performance that is conducive to

meeting our goal of zero injuries. In 2016, we strengthened safety leadership and governance by forming a cross-regional level Operations HSSE Coordination Committee under the chairmanship of the Group COO, which met monthly to coordinate, monitor and share knowledge and experience in the safety practices across the Group to achieve an overall higher level of safety performance. This committee reported in to the Group HSSE Committee chaired by the CEO.



**Most Material Topic**  
Occupational Health and Safety





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Our assets have different levels of joint management and worker representation and approaches to help monitor the health and safety programmes. To best support the Group level policy statement, our assets have the flexibility to structure their own Safety and Health organisations and to design their own approaches in providing relevant safety and health training, as well as monitoring of the percentage of contractors that have undergone the training. In 2016, a clear guidance was created at the Group Level to guide the several HSSE committees at the holdings and regional levels.

For our contractors, we include safety training requirements in all contracts and expect 100% of our contractors to undergo safety training relevant to their duties. We conduct spot checks to ensure compliance.

## Behaviour-based Safety

Due to the higher risks posed by construction-related activities, the safety performance of new projects remains a key focus.

Fangchenggang Phase II was the largest and most complex construction project for CLP in 2016. For this reason, Fangchenggang Phase II has been a focus of attention and a behaviour-based safety programme was launched and several Behaviour-based Safety Workshops were held at Fangchenggang Phase II, to enhance the safety behaviour of both employees and contractors. The safety performance for Fangchenggang Phase II has been excellent and based on its effectiveness, we are taking the programme to our renewable construction projects and operations in India.

Ongoing safety support to various renewable projects continues, including HSSE related workshops, review, and regular safety visits to various renewable construction sites.

## 2016 Performance

In 2016, the total number of days worked by contractors and sub-contractors was approximately three million man days, assuming a nine-hour work day.

CLP reports its safety performance on an annual basis using a number of metrics. We benchmark our safety performance by measuring our Lost Time Injury Rate (LTIR) and Total Recordable Injury Rate (TRIR). They refer to the number of lost time injuries or recordable injuries measured over 200,000 working hours of exposure, which is equivalent to around 100 people working for one year.



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Sadly three people lost their lives while working at our wholly-owned assets, namely Sihong in Mainland China, and Jhajjar and Tejuva in India in 2016. All involved contractors with two of the incidents relating to falls from height and the other an assault on a security guard at a remote location. We have thoroughly investigated these incidents and devised a course of actions to improve our safety practices and enhance contractors' knowledge and competence in order to avoid similar events from recurring. We have the deepest sympathies for the families of the deceased. We also express our sincere sympathy to the family of a contractor worker who lost his life at Castle Peak Power Station in February 2017, during cleaning work at the bottom part of a dust storage facility. The investigation is currently underway.

Following the incidents, we have reminded all employees and contractors who work at our assets to pay special attention to safety precautions. We also reviewed the safety

conditions of similar facilities to ensure that they are up to our required safety standards. In 2016, we did not register any breach of laws or regulations regarding the provision of safe working environment and protecting employees from occupational hazards.

The approach we have adopted to reduce the exposure to serious injuries and fatalities is to identify the high-risk situations in which management controls are either absent, ineffective, or not complied with and to address the risks by bringing in corresponding protection. In addition, we also established a set of life saving rules to avoid exposure to serious injuries and fatalities. These rules will be implemented across assets under CLP's operational control in the first quarter of 2017.

The following charts show the safety performance of all CLP employees and contractors in the Group and individual regions, in terms of Lost Time Injury Rate

(LTIR) and Total Recordable Injury Rate (TRIR) in 2016. Notwithstanding the fatal incidents, our overall safety performance showed an improvement.

Safety is always our number one priority. We hope that our current and new measures will help reduce exposure to serious injuries and fatalities, for both employees and contractors.

### CLP Group Safety Performance (Employees and Contractors)

	2016	2015	2014
Fatalities	3	0	1
Fatality Rate	0.01	0.00	0.005
Number of Lost Time Injuries (including fatality)	13	16	23
Lost Time Injury Rate (LTIR)	0.06	0.07	0.11
Total Recordable Injury Rate (TRIR)	0.15	0.25	0.41
Number of Days Lost / Days Charged (employees only)	9	199	105
Number of Occupational Disease (employees only)	0	0	0

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## CLP Group Safety Performance by Region in 2016

Employees / Contractors							
	CLP Holdings	Hong Kong	Mainland China	India	SE Asia	Australia	Total
Fatalities	0 / 0	0 / 0	0 / 1	0 / 2	N/A	0 / 0	0 / 3
Fatality Rate	0.00 / 0.00	0.00 / 0.00	0.00 / 0.03	0.00 / 0.05	N/A	0.00 / 0.00	0.00 / 0.02
Number of Lost Time Injuries	0 / 0	0/1	0/2	0/4	N/A	3/3	3/10
Lost Time Injury Rate (LTIR)	0.00 / 0.00	0.00 / 0.02	0.00 / 0.06	0.00 / 0.11	N/A	0.14 / 0.46	0.04 / 0.07
Total Recordable Injury Rate (TRIR)	0.48 / 0.00	0.00 / 0.09	0.00 / 0.06	0.00 / 0.30	N/A	0.37 / 1.06	0.11/ 0.18
Number of Days Lost / Days Charged (employees only)	0	0	0	0	N/A	9	9
Number of Occupational Disease (employees only)	0	0	0	0	N/A	0	0

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## SAFETY MANAGEMENT SYSTEMS OF OUR ASSETS IN 2016

FACILITY	BUSINESS TYPE	GENERATION TYPE	GENERATING CAPACITY (MW)	EQUITY OWNERSHIP (%)	SAFETY MANAGEMENT SYSTEM	NOSA AUDIT IN 2016 (GRADING)	SHE PEER REVIEW IN 2016
<b>Hong Kong</b>							
Black Point	Power Generation	Gas	2,525	70%	OHSAS 18001	N/A	Nil
Castle Peak	Power Generation	Coal	4,108	70%	OHSAS 18001	N/A	Nil
Penny's Bay	Power Generation	Oil	300	70%	OHSAS 18001	N/A	Nil
Transmission and Distribution Network	Power Delivery	N/A	N/A	100%	OHSAS 18001	N/A	Nil
<b>Mainland China</b>							
Dali Yang_er	Power Generation	Hydro	49.8	100%	NOSA	5	Yes
Fangchenggang I	Power Generation	Coal	1,260	70%	OHSAS 18001 & NOSA	5	Nil
Huaiji	Power Generation	Hydro	129	84.90%	NOSA	4	Yes
Jiangbian	Power Generation	Hydro	330	100%	OHSAS 18001 & NOSA	5	Nil
Jinchang	Power Generation	Solar	85	51%	OHSAS 18001 & NOSA	3	Yes
Laiwu I	Power Generation	Wind	49.5	100%	OHSAS 18001 & NOSA	3	Nil
Penglai I	Power Generation	Wind	48	100%	OHSAS 18001 & NOSA	5	Nil
Qian'an I and II	Power Generation	Wind	99	100%	OHSAS 18001 & NOSA	5	Nil
Sihong	Power Generation	Solar	93.42	100%	NOSA	Baseline Audit	Nil
Xicun I and II	Power Generation	Solar	84	100%	NOSA	Baseline Audit	Nil
Xundian I	Power Generation	Wind	49.5	100%	Under Development	N/A	Nil
Sandu	Power Generation	Wind	99	100%	Under Development	N/A	Nil
Laizhou	Power Generation	Wind	49.5	100%	Under Development	N/A	Nil
<b>India</b>							
Jhajjar	Power Generation	Coal	1,320	100%	N/A	4	Yes
Paguthan	Power Generation	Gas	655	100%	NOSA	NOSCAR	Nil
<b>Australia</b>							
Cathedral Rocks	Power Generation	Wind	66	50%	OHSAS 18001	N/A	Nil
Hallett	Power Generation	Gas	203	100%	AS4801	N/A	Nil
Mount Piper	Power Generation	Coal	1,400	100%	OHSAS 18001	N/A	Nil
Tallawarra	Power Generation	Gas	420	100%	AS4801	N/A	Nil
Yallourn	Power Generation	Coal	1,480	100%	OHSAS 18001	N/A	Yes

Remarks: · Under Development - System being set up with resources and staff support in place.

· N/A - Not applicable to the type of operation.

· Nil - Not required by operational licence/did not conduct audit or review in 2016.

· NOSA - National Occupational Safety Association

· OHSAS - Occupational Health and Safety Management System Standard

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## SAFETY AND NUCLEAR POWER

Nuclear can be a reliable, cost-effective and virtually emission-free electricity source. CLP has partnered with CGNPC in Guangdong Daya Bay Nuclear Power Station (GNPS) for over 30 years.

Electricity generated from the GNPS provides for roughly 30% of the power for our supply area in Hong Kong. Safe operation is always the top priority for us. At GNPS, the defence-in-depth principle (application of multiple independent and redundant layers of protection) is applied across a full spectrum of areas, ranging from plant design to operational procedures to ensure robust safety back up support.

GNPS continued to operate smoothly in 2016. In October 2016, there was one “Below Scale” Licensing Operating Event (also known as Level 0 event under the International Nuclear and Radiological Event Scale), which had no safety or environmental significance.

Radiation levels that workers are exposed to are closely managed both collectively and at the individual level as part of the operating protocols. Most of the radiation dosage of the workers is incurred during planned refuelling outages when much of the work is undertaken at the nuclear generating units. The number of planned refuelling outages in a year and the related work involved, has been the primary driver of the collective radiation dosage over the years.

A collective radiation dosage similar to 2015 was registered in 2016, even though there were two planned outages in 2016 compared to one in 2015. This was because the two planned outages in 2016 required only typical inspection and maintenance activities, while the outage activities in 2015 were very comprehensive to meet the 10-year regulatory requirements.


Daya Bay Nuclear Power Operations and Management Company, Limited (DNMC) is the operator for GNPS. One of its duties is to ensure that the radiation dosage of individual

workers meets the limits set by the State, that are aligned with the recommendations of the International Commission on Radiological Protection (ICRP), namely:

- An annual average of 20mSv over five years; and
- 50mSv within any one year.

For radiation-related work at GNPS, the 2016 collective radiation dosage of 1,032 man-mSv translates into an average of about 0.5mSv per person per year, compared to the annual radiation dosage received in Hong Kong of 2.4mSv per person per year from the natural environment and about 3mSv per person per year from all sources.

In line with good business practice, Guangdong Nuclear Power Joint Venture Company, Limited (GNPJVC), the entity which owns GNPS, has made a provision for the expenses associated with the decommissioning of GNPS as required under the joint venture contractual agreement. The amount of such a provision is commercially sensitive.

 See nuclear energy and safety on our website.

### Collective Radiation Dosage for Workers

man-mSv

2016	2015	2014	2013	2012
1,032	1,035	1,512	1,769	946



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## SECURITY

Security Management, the fourth element listed in the HSSE Management System Standard, exists in order to protect our people, property, information and reputation against associated security risks. The security management process evaluates, in a systematic and risk-orientated way, the security status of any asset operated and owned by CLP. This enables the company to continuously evaluate its security processes and enhance them according to the perceived threat and vulnerability of the site. In 2016, a total of eleven power stations were assessed and this total will increase as the process develops across the CLP Group. At each site, annual security drills are conducted and overseen both at the regional and group level.

On the human rights front, we understand the importance of well-trained security staff in order to help prevent reputational and litigation risks that arise from inappropriate conduct. Standards of conduct are informed by our Value Framework and Security


Management System, which requires each CLP region and their sites to develop an appropriate system to effectively address the threats faced. All of our in-house security staff are required to comply with CLP's Code of Conduct on an annual basis. In addition to national regulations and site-specific briefings, third-party vendor security staff receive training on CLP's harassment-free policy, guidance on minimum wage policy and other non-discrimination training during induction, before being granted access to the site(s) they are assigned to.

Awareness of cyber security risks and readiness against cyber attacks are critical for infrastructures such as power grids and generation plants. The physical asset that generates and delivers energy to our communities, depends increasingly on the security of the operational technology that supports it. Any disruption to that technology poses a significant threat to our operations. In our ongoing commitment to defend our networks from cyber threat, CLP continues to assess and strengthen our cyber security

programme with emerging new threats in mind. Embedding a strong cyber safe culture across our daily business operations moves us towards a secure and sustainable future for Hong Kong.

## ENVIRONMENT

The fifth element in the HSSE Management System Standard outlines CLP's objectives for Environmental Management. This element states that the environmental risks associated with CLP Group's project life cycle shall be appropriately managed through compliance to both requirements of regulators and the CLP Group – honouring CLP's commitments and meeting our stakeholder expectations.

 For more information on CLP's environmental policies, practices and performance, please refer to the Natural Capital chapter.

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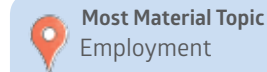
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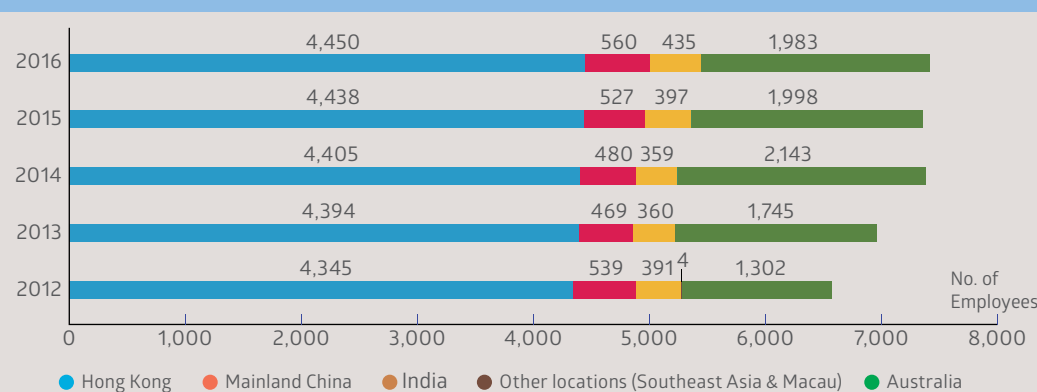
**We view our people as our greatest asset and being key to the sustainability of our company – the team work and collegiate nature of our talented multi-disciplinary employee base is a source of great pride.**



We operate in a complex and rapidly changing business environment. Major human capital-related trends include the impact of digitalisation on the energy sector, which is reshaping our industry, and the social and demographic consequences of ageing populations. To build and maintain a sustainable and innovative workforce for tomorrow, we pay special attention to issues such as safety, diversity and equality, competitive benefits, building new capabilities, and respect for human rights.

As at 31 December 2016, the Group employed 7,428 staff (2015: 7,360), of whom 4,233 were employed in the Hong Kong electricity and related business, 2,925 by our businesses in Mainland China, India, Southeast Asia and Taiwan and Australia, as well as 270 by CLP Holdings. Total remuneration for the year ended 31 December 2016 was HK\$5,151 million (2015: HK\$4,855 million), including retirement benefits costs of HK\$440 million (2015: HK\$384 million).

### Regional Distribution of Full-time Employees



### Regional Distribution of Part-time Employees

No. of Employees

	2016	2015	2014
Hong Kong	18	23	23
Mainland China	0	0	0
India	0	0	0
Other Locations (Southeast Asia & Macau)	0	0	0
Australia	180	257	159
<b>Total</b>	<b>198</b>	<b>280</b>	<b>182</b>

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## INCREASING DIVERSITY

A sustainable workforce requires a broad base of recruitment and diversity supports innovation capability.



**Most Material Topic**  
Diversity and Equal Opportunity

### DIVERSITY OF LEADERSHIP

The energy sector is facing revolutionary changes. In this complex environment, it is essential for our leadership team to have diverse thinking and background in order to strengthen the decision making capability, agility and resilience of our organisation.

The diversity of our broader workforce is also important, both as a reflection of the different communities in which we operate, and because a sustainable workforce requires us to maintain a broad base of recruitment.

Workforce diversity, particularly in tenure, has also been demonstrated to support innovation capability in organisations.

How we approach diversity must take into account that we operate in countries with different social and cultural contexts. This means we must be sensitive to differences in culture, values, traditions and religions, and respect local approaches to the regulation of diversity issues.

We give flexibility to each subsidiary to develop locally specific approaches to diversity.

For example, EnergyAustralia embarked on a focussed diversity and inclusion programme in 2016, covering improved arrangements for employees returning from parental leave, improved workplace inclusion for the LGBTI community, establishment of a reconciliation action plan aimed at increasing our engagement with indigenous people, and support to address issues of domestic violence.

### Diversity of Group Executive Committee (GEC) members

% of GEC members

	2016
<b>By Gender</b>	
Male	69
Female	31
<b>By Nationality</b>	
Chinese	23
European	23
American / Canadian	15
Australian/ New Zealander	31
Indian	8

Note: Nationality is based on passport, and does not necessarily reflected ethnic origin.

### Average length of service years by region

No. of years

	2016	2015	2014
Hong Kong	17.7	17.9	18.2
Mainland China	14.0	14.2	15.0
India	5.7	11.5	5.7
Australia	4.4	4.4	4.6

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## Employees Eligible to Retire in the Next Five Years<sup>1,2</sup>

% of Employees

	2016	2015	2014	2013	2012
Hong Kong	17.3	16.2	15.4	15.2	14.0
Mainland China	12.1	11.9	11.1	12.2	11.9
India	0.9	0.8	1.4	0.8	0.8
Other locations (Southeast Asia & Macau)	N/A	N/A	N/A	N/A	N/A
Australia <sup>3</sup>	11.4	10.9	9.2	10.9	11.9
Total	14.1	13.3	12.4	13.0	12.6

1. The percentages given refer to full-time permanent staff within each location, who are eligible to retire within the next five years.

2. There were no permanent staff in "Other locations (Southeast Asia & Macau)" since 2012.

3. 2013 data excludes Mount Piper and Wallerawang staff.



## Age Distribution by Region

% of Employees

	2016					2015					2014				
	below 18	18-29	30-39	40-49	50 and above	below 18	18-29	30-39	40-49	50 and above	below 18	18-29	30-39	40-49	50 and above
Hong Kong	0.1	13.2	21.2	26.1	39.4	0.1	12.3	20.7	27.4	39.5	0.02	12.4	20.8	29.2	37.6
Mainland China	0.0	17.7	29.5	37.1	15.7	0.0	18.8	27.9	38.3	15.0	0.0	17.7	27.3	40.8	14.2
India	0.0	23.9	45.7	22.1	8.3	0.0	32.0	42.1	19.4	6.5	0.0	27.6	42.6	22.0	7.8
Australia*	0.0	22.2	35.8	21.2	20.8	0.0	25.0	34.5	20.0	20.5	0.0	27.1	37.1	19.2	16.7
Total	0.03	16.6	27.2	25.4	30.8	0.05	17.3	26.1	25.8	30.8	0.01	17.4	26.7	27.0	28.9

\* 2014 data exclude Mount Piper and Wallerawang staff

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## GENDER EQUALITY

The most significant and common issue we face as a Group, is gender diversity. Demographic trends confirm the business case for this; and as gender equality is embedded in the United Nations Guiding Principles on Business & Human Rights and in the United Nations Sustainable Development Goals (SDGs), the social and economic case for making it a priority is equally strong.

However, we face some challenges in increasing the proportion of female employees, from the current figure of 23.6%.

The nature of our business requires a high percentage of the workforce to have technical and engineering skills. However, there are supply constraints due to the global shortage of females studying science, technology, engineering and mathematics (STEM) at school and university.

We also face cultural constraints in places like India, which has a relatively low female workforce participation rate.

Given this context, we have decided to focus our efforts on three priorities to improve our

gender diversity. These priorities have been chosen because they reflect our business needs, align with the UN SDGs, and support the social and economic empowerment of women. First, we aim to increase the number of women in leadership positions in CLP. Second, we strive to increase the number of female engineers we employ by supporting initiatives that encourage girls to study engineering in schools and attracting female graduates to join the company. The third priority is to ensure gender pay equity. A range of initiatives were undertaken in 2016.



Our gender initiatives address SDG #5: achieve gender equality and empower all women and girls





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## Women in Leadership

Out of the 431 leadership positions, 21.8% are occupied by females. However, women take 31.3% of non-engineering leadership positions.

Initiatives:

- We introduced a gender metric into our succession planning process to ensure female candidates are being identified and considered for senior positions. For example, a female candidate has been appointed as Head of Group Internal Audit, and also as a member of the Group Executive Committee. In EnergyAustralia, it is mandatory to consider female candidates on the short-list for executive appointments.
- A number of our female executives attended leadership programmes at renowned international organisations including Switzerland's IMD and the Centre for Creative Leadership in 2016.



## Gender Pay Equity

At CLP, we are committed to providing a fair and equitable workplace where all individuals are treated equally in every aspect of their work, including remuneration, to attract and retain talent.

Initiative:

We carried out detailed gender pay equity audits in Hong Kong and Australia to confirm that we are complying with the principle of equal pay for work of equal value. These audits covered actual remuneration received, that is base salary plus incentive payment.

## Women in Engineering

Females with engineering degree level qualifications currently account for 8.9% of all engineers at CLP.

Initiatives:

- In 2016, we launched a Group-wide network of female engineers from India, Australia, Mainland China and Hong Kong. They met to develop action plans to increase our number of female engineers.
- CLP India has made efforts to increase the female hiring pool through partnership with the National Power Training Institutes.
- We continued with our established mentoring programme with female engineers guiding female engineering students in Hong Kong, and delivering career talks to schools and universities.
- We offered an engineering work placement programme for secondary school students in Hong Kong, a third of whom were female participants.
- We organised a joint forum with The Women's Foundation in Hong Kong and a number of local universities to identify ways to encourage more females to study engineering. We also partnered with The Women's Foundation on an initiative to encourage girls to study STEM subjects at school.

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## Gender Distribution by Region

% of Employees

	2016		2015		2014	
	Male	Female	Male	Female	Male	Female
Hong Kong	81.5	18.5	82.2	17.8	82.5	17.5
Mainland China	79.5	20.5	79.3	20.7	78.3	21.7
India	88.7	11.3	90.2	9.8	91.1	8.9
Australia*	61.3	38.7	57.4	42.6	54.7	45.3
<b>Total</b>	<b>76.4</b>	<b>23.6</b>	<b>75.7</b>	<b>24.3</b>	<b>75.2</b>	<b>24.8</b>

\* 2014 data exclude Mount Piper and Wallerawang staff

## Gender Distribution by Professional Category

% of Employees

	2016						2015						2014					
	Managerial		Professional		General & Technical Staff		Managerial		Professional		General & Technical Staff		Managerial		Professional		General & Technical Staff	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Hong Kong	76.5	23.5	78.4	21.6	84.4	15.6	76.6	23.4	79.3	20.7	85.0	15.0	76.9	23.1	80.1	19.9	84.8	15.2
Mainland China	83.3	16.7	83.7	16.3	76.9	23.1	90.0	10.0	83.1	16.9	77.1	22.9	78.3	21.7	85.7	14.3	75.5	24.5
India	94.3	5.7	89.9	10.1	84.3	15.7	93.0	7.0	92.8	7.2	83.8	16.2	94.9	5.1	93.7	6.3	83.8	16.2
Australia*	74.2	25.8	55.3	44.7	65.4	34.6	71.0	29.0	58.4	41.6	55.0	45.0	73.8	26.2	62.1	37.9	47.2	52.8

\* 2014 data exclude Mount Piper and Wallerawang staff

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## RESPECT FOR HUMAN RIGHTS

**We support and respect the protection of internationally proclaimed human rights across our value chain.**



**Most Material Topic**  
Human Rights  
Assessment

Our human resources policies and procedures are intended to ensure that we comply with local laws and regulations in relation to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare in the markets where we operate.

Given the technical complexities and ambiguities of some laws and regulations, the risk of unintended breaches cannot be prevented entirely. We take immediate action to investigate and address any suspected breaches and issues that are brought to our attention.

We also carry out independent audits of our human resources policies and practices to proactively identify any risks of non-compliance and take remedial actions if such risks are identified.

Occasionally there are disagreements with individual employees or unions over the interpretation or application of local laws and regulations. In such cases we will first attempt to resolve any issues amicably within locally determined procedures. If negotiation or conciliation is not successful, we comply fully with the final decisions of any relevant arbitration, tribunal or court.

We comply fully with any local legal requirements with respect to minimum wage. In practice, our policies and remuneration and benefits often significantly exceed local legal requirements. We place great importance on treating employees fairly, which includes ensuring a fair wage, fair benefits, fair working hours, and fair treatment regardless of gender, race or other attributes recognised by the laws of the countries in which we operate.

It is not our Group policy or market practice to provide the same employment benefits to temporary or part-time staff as to full time or permanent staff. However, the benefits for our temporary and part-time employees are competitive with local market practice and meet or exceed local legal requirements.



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## DANISH INSTITUTE FOR HUMAN RIGHTS (DIHR)

We recognise that our corporate responsibility to respect human rights extends to our network of suppliers and contractors. Working in partnership with the independent Danish Institute for Human Rights (DIHR), we commenced a pilot due diligence exercise focused on the use of contractor labour in Hong Kong and India. Hong Kong is our largest operational location, where we have experienced some employee relations issues in the contractor workforce. We also make extensive use of contractor labour in India, where issues have been raised on areas including safety performance.

The objectives of this exercise are to identify any salient human rights issues, and to build our organisational capability to manage human rights issues proactively and systematically.

The work carried out by the DIHR includes confidential interviews with a sample of contractor employees to ensure independence. The due diligence exercise will continue in 2017, and report to the Group Executive Committee and the Sustainability Committee. As part of this exercise, 59 employees received human rights training from external consultants.

We recognise that we are taking the first step on a journey to embed human rights considerations into our policies and management processes, and the due diligence exercise is intended to be a foundation for future initiatives.

## CHILD AND FORCED LABOUR

CLP prohibits the employment of child, forced or compulsory labour in any of our operations. We require all our operations to ensure that

they do not use child or forced labour. We have also put an increasing focus on due diligence activities in relation to human rights, and engaged independent consultants to conduct risk assessment in our contractor workforce. In 2016, no such violation has been discovered.

In 2016, we did not identify any operation or supplier as having significant risk of child labour, young workers exposed to hazardous work, or forced or compulsory labour. There was no breach of the laws and regulations in relation to child and forced labour across our Group in 2016.

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## DISCRIMINATION & HARASSMENT

Each of our businesses has an employee grievance procedure in place that reflects our Value Framework and any applicable local legal requirements. For example in Hong Kong, CLP's Grievance Resolution Policy encourages employees to discuss issues freely and openly with their supervisors. They are encouraged to bring issues forward to the Human Resources Department or higher level of management if they think the issues are unresolved or are being unjustly handled. There will be no discrimination, coercion or retaliation for doing so.

Compared to the previous year, the relatively higher number of breaches in 2016 reflected the improved identification and stricter enforcement of work place behaviour requirements.

With respect to complaints about discrimination and harassment, we have clear policies in place, supported by employee training. Our Group-wide Harassment policy

sets a common framework of principles and our detailed policies in each country are fully compliant with local legislation.

In the case of any employee having concerns, we follow established procedures to address grievances. We investigate all complaints of discrimination and harassment. These procedures ensure fairness and independence in the investigation process, and respect for the confidentiality of the parties involved.

## LABOUR / MANAGEMENT RELATIONS

Our employees have the freedom of association to join organisations and professional bodies of their choice. We respect and comply fully with all legal requirements in regards to union membership and collective bargaining in the countries we operate in. However, our management philosophy is that the most appropriate way to engage with our colleagues is through direct communication rather than through intermediary organisations.

**102-41** In Australia we engage in collective bargaining with some employees via certified Enterprise Bargaining Agreements. These agreements include both notice period and provisions for consultation and negotiation.

In 2016, we did not identify any operations in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk.



**Most Material Topic**  
Non-discrimination



**Most Material Topic**  
Labour / Management Relations

### Substantiated Complaints

No. of Complaints

	2016	2015	2014
Harassment	4	1	2
Discrimination	0	0	0
Human Rights Grievances	0	0	0
Labour Practices Grievances	0	0	0



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## SHORT-TERM EMPLOYMENT AND USE OF CONTRACTORS

**A flexible resourcing model is necessary for our business but needs to be managed responsibly.**

Our workforce includes not only our permanent staff, but also short term contract staff, temporary staff, and labour supplied by external contractors.

While short term employment contracts are sometimes necessary to meet temporary resourcing needs, the repeated renewal of such contracts is not an acceptable resourcing strategy. We have taken steps to limit the use of short term employment contracts to

a maximum of four years, following which continued employment must be on permanent terms.

The extensive use of labour hired through external contractors presents a number of risks:

- Whilst use of contractors is necessary to meet seasonal or other variations in workload, the habitual and consistent reliance on contractors, risks a lack of

transparency and control over the real headcount required to manage our normal business operations;

- Risk of outsourcing our core capabilities;
- Poor safety performance of our contractors when compared to our permanent employees;
- Potential security risks; and
- Human rights and employee relations risks.

Consequently, strengthening our understanding and reporting of our use of contractor labour is a priority. An immediate area of focus is individual contractors employed under direct supervision of CLP staff in Hong Kong. Given the associated risks, we will increase the transparency and reporting of our utilisation of this type of labour. In 2016, we initiated a human rights due diligence exercise focused on contractor labour, and reviewed the safety practices and culture of our external contractors.

### Employment type by Region

% of Employees

	2016		2015		2014	
	Permanent	Short-term Contract	Permanent	Short-term Contract	Permanent	Short-term Contract
Hong Kong	82.3	17.7	80.8	19.2	81.4	18.6
Mainland China	69.6	30.4	70.0	30.0	73.3	26.7
India	99.8	0.2	99.7	0.3	99.7	0.3
Australia*	96.9	3.1	98.3	1.7	98.0	2.0
<b>Total</b>	<b>86.3</b>	<b>13.7</b>	<b>85.8</b>	<b>14.2</b>	<b>86.6</b>	<b>13.4</b>

\* 2014 data exclude Mount Piper and Wallerawang staff

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## COMPETITIVE AND SUSTAINABLE BENEFITS

**We attract, motivate and retain high performing employees through competitive pay and benefits, and it is important that this is sustainable.**

Apart from gender equity, the ability to attract and retain talent with diverse thinking, background and tenure is essential to maintaining a sustainable workforce.

Each year, we use independent external consultants to benchmark our remuneration and benefits, with our major recruitment markets to assess how competitive we are. In order to ensure that we respect the interests of both our employees and shareholders as key stakeholders, decisions on remuneration are subject to our corporate governance process and the approval of the Human Resources & Remuneration Committee.

Through our structured Performance Management System (PMS), 100% of our employees annually set individual objectives, review achievements and review performance ratings, which determine remuneration and other incentives.

Retirement benefits are a significant component of total remuneration at CLP. The retirement benefit plans for staff employed by the Group entities in Hong Kong, are regarded as defined contribution schemes. The current scheme, the CLP Group Provident Fund Scheme (GPFS), provides benefits linked to contributions and investment returns on the scheme.

Contributions paid in 2016 to defined contribution schemes, including GPFS and MPF as required under the Hong Kong Mandatory Provident Fund Schemes Ordinance, totalled HK\$288 million (2015: HK\$231 million). Staff employed by Group entities outside Hong Kong are primarily covered by defined contribution schemes in accordance with local legislation and practices and such total contributions amounted to HK\$152 million (2015: HK\$153 million). Out of total retirement benefits costs of HK\$440 million (2015: HK\$384 million), HK\$106 million (2015: HK\$82 million) was capitalised.

In 2016, a number of initiatives were taken to enhance the sustainability of our benefit schemes and their impact on employee attraction and retention.

and increasing life expectancy. CLP operates defined contribution schemes for the majority of our staff, except for limited historical legacy cases in EnergyAustralia.

### ENHANCING PENSION FUND SUSTAINABILITY

Globally there is increasing concern over the adequacy and sustainability of pension schemes because of the low investment yields

In 2016, we reviewed the sustainability of our Hong Kong defined contribution scheme in view of the emerging global challenges. As a result:

- We increased the existing matching contribution scale to further support the shared responsibility of individuals and the company for making adequate retirement savings. The eligibility for the increased matching contribution is based on length of service to encourage retention.
- We increased the base for determining the company contribution to retirement savings for all eligible staff, regardless of their length of service.

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## IMPLEMENTING FAMILY FRIENDLY POLICIES

We increased our paid maternity leave in Hong Kong from 10 to 14 weeks and paid paternity leave from 5 to 10 days. While this places us clearly amongst the market leaders in Hong Kong, we will continue to monitor international trends and best practices. 100% of our employees were entitled to applicable parental leave subject to local policy and legislation.

In Australia, the Keeping you Connected initiative keeps EnergyAustralia's employees on maternity leave connected to the company while on leave, and working parents connected to their families. The company also supports primary carers with 14-week parental leave and encourages return-to-work parents to work 75% of their agreed hours but receive full remuneration for the first four weeks.

## ENHANCING EMPLOYEE WELL-BEING

Medical benefits are not only important for attracting and retaining our staff, but also help maintain a healthy and productive workforce.

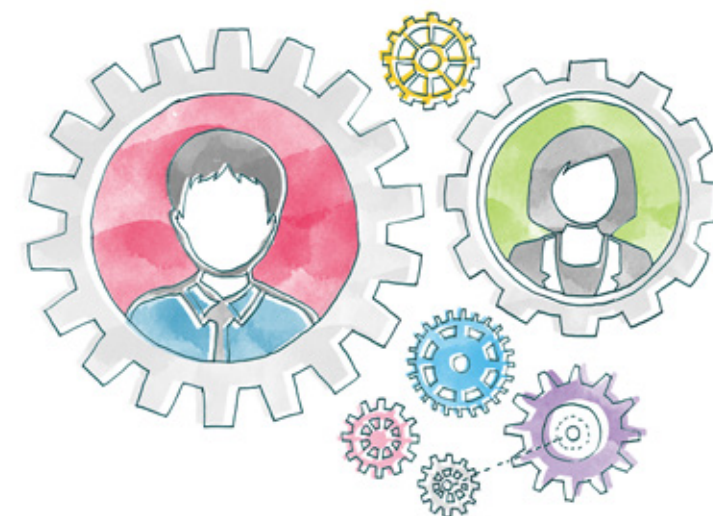
Medical cost inflation poses a threat to the sustainability of medical benefits schemes. In Hong Kong, the associated premiums are rising rapidly. Enhancing employee well-being is an important measure to help improve the health status of the workforce, manage the cost of medical claims, and reduce the impact of sickness absence on productivity.

Subject to respect for individuals' confidentiality, we work with health professionals to use aggregate employee health data to identify common health issues affecting our workforce, so that fact-based prevention measures can be identified.

We recognise that employee well-being extends beyond physical health to mental health. Our Group Executive Committee was given a briefing by a leading psychiatrist on the impact of mental health issues on the workforce, and we have established a mechanism for addressing any mental health issues in a professional and sensitive manner.

EnergyAustralia has focused on improved management of "return to work" for long-term absentees and also increased support on mental health. These efforts have seen an improvement in absence from work statistics in our contact centres and a reduction of workers compensation claims.

Our ability to retain staff is reflected in voluntary turnover rates that are lower than local market averages. The following tables present figures for voluntary staff turnover according to age, region and gender.



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## Voluntary Turnover Rate by Region

% of Employees

	2016	2015	2014
Hong Kong	2.3	2.8	2.6
Mainland China	3.4	2.6	2.5
India	8.4	9.8	13.2
Australia*	12.6	13.7	11.6

\* 2014 data exclude Mount Piper and Wallerawang staff

## Voluntary Turnover Rate by Region and Gender

% of Employees

	2016		2015		2014	
	Male	Female	Male	Female	Male	Female
Hong Kong	1.8	4.6	2.5	4.7	2.1	5.3
Mainland China	3.6	2.6	2.7	1.9	2.4	2.9
India	8.0	11.5	9.6	11.5	13.6	9.0
Australia*	11.2	14.6	12.6	15.2	11.1	11.8

\* 2014 data exclude Mount Piper and Wallerawang staff

Note: The female voluntary turnover is generally higher than that of male, given most of our female employees work in functional areas which have higher voluntary turnover rates than for engineering or technical staff due to competitive recruitment markets.

## Voluntary Turnover Rate by Region and Age Group

% of Employees

	2016					2015					2014				
	below 18	18-29	30-39	40-49	50 and above	below 18	18-29	30-39	40-49	50 and above	below 18	18-29	30-39	40-49	50 and above
Hong Kong	0.0	5.4	4.0	1.6	1.5	0.0	5.3	6.1	2.0	1.7	0.0	5.1	4.7	1.6	2.0
Mainland China	0.0	12.0	1.9	1.4	1.2	0.0	5.9	4.1	0.5	1.3	0.0	7.7	2.8	1.0	0.0
India	0.0	10.5	9.9	3.4	6.5	0.0	9.9	11.6	6.5	8.3	0.0	17.3	13.5	10.1	3.5
Australia*	0.0	18.3	13.1	10.9	7.1	0.0	15.6	18.9	11.2	5.5	0.0	14.6	10.5	10.8	9.1

\* 2014 data exclude Mount Piper and Wallerawang staff

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MOST MATERIAL TOPICS

INTERVIEW WITH THE CHRO

HEALTH, SAFETY, SECURITY AND ENVIRONMENT

EMPLOYEES

INCREASING DIVERSITY

RESPECT FOR HUMAN RIGHTS

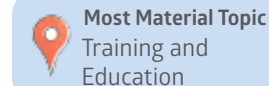
SHORT-TERM EMPLOYMENT AND USE OF CONTRACTORS

COMPETITIVE AND SUSTAINABLE BENEFITS

ORGANISATIONAL AGILITY

## ORGANISATIONAL AGILITY

The pace of digital disruption is increasing as is our capability to adopt and respond to this.



**Most Material Topic**  
Training and Education

### TRAINING AND DEVELOPMENT

We maintain our core competencies through the planned intake of trainees and continuous investment in training and development. In 2016, we recruited 57 apprentices, technicians and graduate engineers in Hong Kong. More than a fifth of them are females. In Mainland China, two of our five graduate engineers under training are females. In EnergyAustralia, we also advertised for five operator positions and five apprenticeship positions for females at the Yallourn Power Station to fulfil a commitment made by our Managing Director – Australia on International Women's Day.

### LEVERAGING OUR CORE COMPETENCIES

The effective international deployment of our core engineering capabilities is a critical success factor, both to leveraging our core

competencies across the Group and to providing staff with career development opportunities. A pool of project engineers in Hong Kong were identified as mobile resources to support projects and provide technical services to assets across the region.

### FOSTERING AN INNOVATIVE CULTURE

We also build new capabilities in order to stay aligned with changes in our business environment. Given the challenges presented by the digitalisation of the energy industry, a Senior Director of Innovation was recruited in 2016, and an Innovation Team was formed with staff seconded from various parts of the business. These colleagues have been allocated to lead specific priority innovation projects, following which they will return to their business units in order to ensure cross-fertilisation of innovation skills into the broader organisation.

For example, four colleagues were seconded to our Smart Charge venture, co-established with HKT. In total we have assigned significant staff resources to a range of projects related to digitalisation and smart grid. We also continued to strengthen the resources allocated to our New Energy team.

### EMBRACING NEW TECHNOLOGIES

Our capabilities are extended and broadened by leveraging external strategic partnerships. An example of this is our established relationship with École Polytechnique Fédérale de Lausanne (EPFL). This provided us with access to:

- An executive education programme for 23 employees on the impact of new technologies on the energy sector;

- Internships for two MSc students from EPFL to work on complex technical challenges as part of their MSc studies;
- Technology-related briefings on topics such as smart grids and solar energy to senior management and the non-executive directors; and
- Technology transfer agreements to support our internal innovation capabilities.



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## Employee Training of our Workforce

Average Hours

	2016	2015	2014
<b>By Gender</b>			
Male	55.9	59.5	48.7
Female	27.7	49.7	27.1
<b>By Professional Category</b>			
Managerial	29.4	45.2	24.1
Professional	44.5	57.0	38.6
General & Technical Staff	55.1	58.6	49.2
<b>By Region</b>			
Hong Kong	62.9	55.1	51.3
Mainland China	70.9	66.8	88.1
India	39.6	34.3	31.6
Australia*	14.3	63.5	16.5
Total	49.2	57.2	43.4

\* 2014 data exclude Mount Piper and Wallerawang staff



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## Employee Training by Region, Gender and Professional Category

% of Employees

	2016						2015						2014					
	By Gender		By Professional Category				By Gender		By Professional Category				By Gender		By Professional Category			
	Male	Female	Managerial	Professional	General & Technical Staff	Total	Male	Female	Managerial	Professional	General & Technical Staff	Total	Male	Female	Managerial	Professional	General & Technical Staff	Total
Hong Kong	98.8	95.6	93.2	98.4	98.6	98.2	96.9	98.9	98.7	99.3	95.4	97.2	95.0	84.7	79.9	92.8	94.9	93.2
Mainland China	99.6	100.0	100.0	100.0	99.4	99.6	100.0	99.1	100.0	99.4	100.0	99.8	97.9	97.1	100.0	92.9	99.4	97.7
India	88.9	83.7	81.1	93.5	81.3	88.3	86.3	87.2	90.7	86.1	85.5	86.4	91.7	100.0	92.3	91.0	96.0	92.5
Australia*	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

\* 2014 data exclude Mount Piper and Wallerawang staff



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Thanks to our 115 years of experience in all stages of the electricity supply chain, we have been a pioneer in embracing new technologies and changes.



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## INTERVIEW WITH THE SENIOR DIRECTOR – INNOVATION

### ? What were the highlights for you in 2016?

As a company that has performed admirably for over 115 years at a sustained level of excellence, I believe that 2016 was in fact a watershed year for us at CLP. Due to the rapid evolution of services, solutions and technologies today and the pace at which businesses must move, all businesses must accept greater ambiguity and a faster pace. I think we will look back and say that we readily accepted that ambiguity and pace as the hallmarks of business in the 21<sup>st</sup> century.

2016 was also a year where we faced the exciting and formidable challenges of digital innovation and the world of the internet-of-things (IoT) including energy. Through our external scanning and global engagement with new and digitally leading energy services and technologies, we have created a clear sense of purpose around understanding the digital and IoT implications for the energy sector globally and more specifically for CLP in all of its geographies. This fundamental shift in mind-set in our company at all levels is strategically significant. From our CEO through to all customer-facing staff, I believe we have a genuine sense of commitment to become a leader in the digital energy era.

### ? What were the key challenges of 2016?

As with any shift in global businesses that have operated with established business models and market dynamics, it always takes leadership, focus and resilience to make a change in the way you think and operate. This challenge presents itself in trade-offs around priorities, investment and resourcing. Creating the right conditions for those choices and decisions to be made was a substantial challenge and thanks to our extremely positive culture, we were able to negotiate this more readily and more easily than many companies around the world.

### ? What keeps you awake at night?

I always worry about being quick enough. In fact in business you're never quick enough and you can always go faster. I feel comfortable when the organisation is telling us that the pace is brisk, but with focus it can be sustainable. Keeping this balance right always keeps me awake.

There are many things about today's competitive environment that keep me awake at night; however, I think a lot about how we manage the tension between sustaining existing business focus alongside the challenge of introducing new, incredible technologies, tools and capabilities on top of our existing assets and into our organisation.

Embracing this and creating a sense of excitement in the organisation rather than one of anxiousness is something that requires our leadership commitment daily.

### ? How can we prepare for the future?

You can prepare for the future by engaging actively with it. We're doing this now. It's exciting. We're focused on identifying technologies, solutions, capabilities, tools, partners and much, much more to compete and win in the future. The future starts today and we're in it.

We prepare by actively seeking out world leading businesses and having conversations about what will be possible in the future world of digital energy and renewable energy solutions and technologies. We actively engage in dialogue about what might be possible between us or together. This creates innovative possibilities that we could have never contemplated in the traditional energy world from which we have evolved. Our goal for the future is simple – be in it in a vibrant, active and dynamic way, delivering value to customers and shareholders alike.



Austin Bryan  
Senior Director – Innovation of CLP Group



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## RESEARCH AND DEVELOPMENT

**We have broadened the scope of our R&D focus to support new value driven and customer-centric technologies, digital energy services and innovative business models.**

### OUR APPROACH

We continued to monitor and assess emerging technologies and their applicability for us, including climate adaptation, smart cities, solar resources, energy storage, energy management systems, distributed energy and the utility of the future. We also maintained and built an active network of utility peers, researchers and academics focusing on technology, energy, environment, policy and cleantech investments. We continued to nurture innovation, research and knowledge development to build business insight into emerging risks and opportunities.

Our relatively modest R&D expenditure of HK\$2.49 million for the year of 2016 (2015: HK\$2.38 million) was largely used to support research programmes in

universities, international R&D projects and in-house studies. In light of our increased focus on innovation, we will review the R&D expenditure and seek a broader perspective of the Group.

### OUR EFFORTS

Here are three examples of our research and development efforts in 2016:

#### International Electric Research Exchange (IERE)

Other than co-hosting a workshop with IERE to advance the smart city agenda in Hong Kong, we also worked with IERE to assemble the “Technology Foresight 2020” report in 2016. The key objective of the report is to provide up-to-date information as well as strategic implications to its stakeholders. The

key findings were reported at the workshop and the full report will be released in 2017.

 [Read more about the IERE workshop in Hong Kong.](#)

IERE’s Methanol Marker project involving members from Canada, Mexico, Taiwan, Japan, India and Hong Kong concluded in 2016. The Methanol Marker project was a three-year project to examine the effectiveness of using methanol as an ageing marker for power transformers as experienced by different utilities and a manufacturer. CLP was the editor of the final report, which was also completed in 2016. CLP’s active participation in such a R&D project enabled us to acquire experience and in-house capability to use this new health monitoring equipment, which complements our existing practice, and makes us an early mover on utilising this technology in Asia Pacific.



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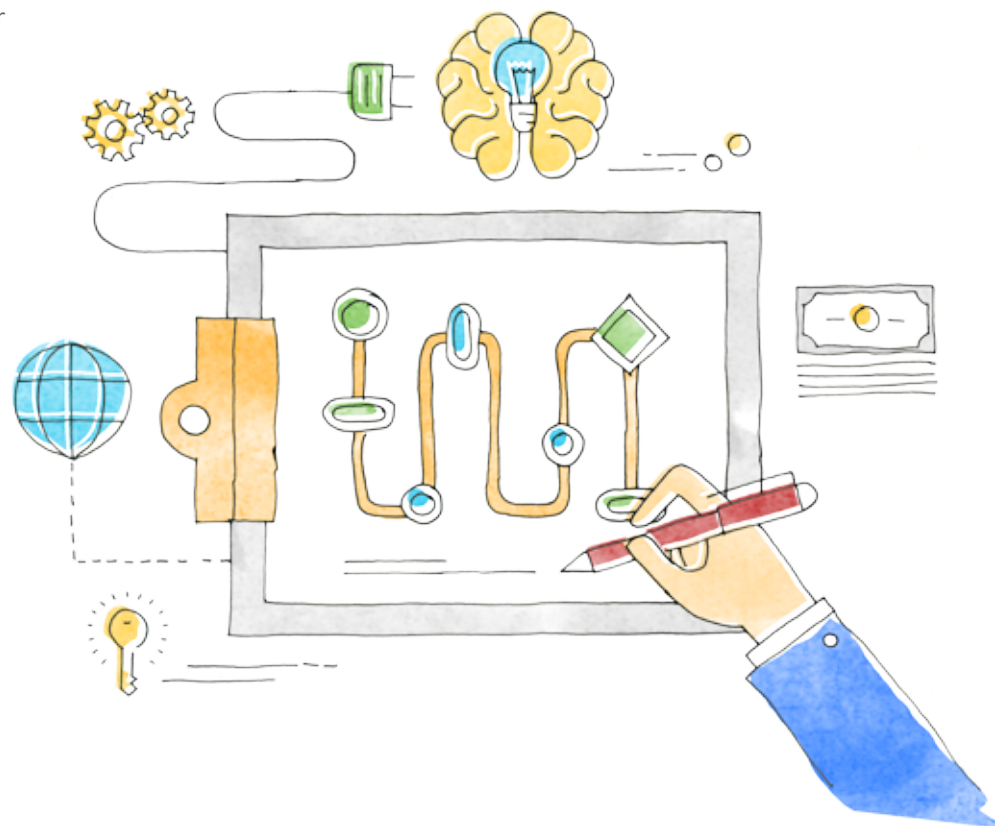
INNOVATION

## “Utility of the Future” Study

CLP was part of the consortium of companies under the World Business Council for Sustainable Development (WBCSD) to co-sponsor MIT’s “Utility of the Future” study in 2015-2016. We have actively participated in the advisory and review processes and the report was officially released in December 2016. The MIT report examines the opportunities and challenges presented by the rapidly evolving electric power sector, particularly with more distributed energy resources, renewables, ubiquitous communication networks, smart meters and the Internet-of-Things (IoT).

## Solar Resource Monitoring Programme

We are working with a local university to explore different data analytic applications by utilising the solar resource data collected from different solar monitoring stations deployed across Asia. The research areas include: identifying optimal sampling frequency; solar resource estimation; power system impacts due to solar generation; and optimal sizing for storage.



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## INNOVATION

**We are preparing for the challenges and exciting new opportunities presented by the digital revolution that is changing the face of our industry.**

The electricity industry is confronted with major changes that are reshaping the traditional utility model. Climate change, as one, has prompted the decarbonisation of generation facilities around the world. Technological advancements are driving down the costs of wind turbines, solar panels, energy storage devices and distributed energy, making renewables increasingly a part of people's daily life. Meanwhile, the ubiquitous communication networks coupled with the Internet-of-Things (IoT) are bringing about a digital revolution that means many everyday devices are becoming more intelligent and automated.

To thrive amid these challenges and maintain our leadership role, CLP needs to continuously innovate and adapt to the changing environment. Fresh ideas are developed; new experiences are sought; and technological

expertise is constantly refined to meet the evolving needs of our customers.

Our customers today are empowered by the abundant information available to them on almost any topic in any geographic location at no cost. Increasingly they are demanding more individualised solutions and more choice. The focus of business has turned from a one-way promotion of products and services to putting customers at the heart of our transition and satisfying their needs before they even realise them. Our role as a utility is to leverage technology and innovation to do just that for our customers.

### BIG DATA

The digitisation phenomenon across many facets of our day-to-day activities, from banking to shopping, is transforming the way societies and individuals behave. The

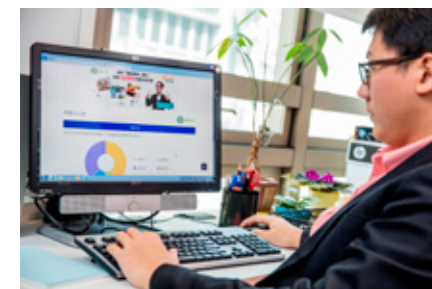
development of many smart systems and devices has resulted in the generation of data from a variety of sources in huge quantities and at high speed. Big data has become a new source of value creation and addition in almost all industries. Consequently, big data management is becoming an essential part of business and the following examples illustrate how CLP leverages big data to create new value for customers.

### Eco Power 360

We have introduced the online home energy assessment platform Eco Power 360 in Hong Kong to assist our residential customers in managing their energy usage more efficiently. It makes use of our extensive consumer usage records to help customers understand how much power they are using for different appliances, and how their consumption patterns compare to historical data and their peer households.



Our investments in renewables, digital technologies and new services address SDG #8: promote inclusive and sustainable economic growth, employment and decent work for all; and SDG #9: build resilient infrastructure, promote sustainable industrialisation and foster innovation.



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## Meter Online

Since 2015, an advanced feature of the Meter Online service has combined data from the Hong Kong Observatory's weather projection, smart meter data from CLP's customer consumption archives, and our data analytic models to produce a nine-day consumption forecast for our customers. By enabling them to manage their energy consumption and demand for days ahead, better energy efficiency and money saving can be achieved. In 2016, over 2,100 CLP commercial and industrial customers subscribed to Meter Online, with more than 40% having access to the advanced nine-day consumption forecasting model. While continuing our efforts to promote this service to customers, we shared our experience with overseas power companies in various conferences.

## INTEGRATING RENEWABLES

CLP continues to support the community in developing renewable projects where practicable, especially in schools, on rooftops

and at local community facilities. In Hong Kong, we provide expertise to help our customers understand and resolve technical issues so that they can connect their renewable energy systems, normally less than 200kW per site, to the electricity grid. By the end of 2016, over 250 renewable projects totalling more than 38MW have been connected to our grid. We have also participated in building Hong Kong's largest solar facility (1.1MW) at a government sewage treatment plant on Lantau Island. The experience we gained in developing and operating renewable facilities in Hong Kong, along with our solar power and wind generation projects in Mainland China, India and Australia, has made us a reliable and innovative developer of renewables in Asia.

## DISTRIBUTED ENERGY RESOURCES

In the past, distributed generation has been limited by the lack of affordable local resources (e.g. natural gas or waste heat) and special conditions (e.g. backup generators).

However, distributed renewables such as rooftop solar panels and small wind turbines have now become more accessible and affordable. In addition, the arrival of different energy storage means, including chemical batteries, flywheels, thermal storage systems and even electric vehicles, now enables both customers and utilities to store limited electricity easily.

It is important for utilities to understand these developments and their impact on the grid. In 2012, CLP commissioned Hong Kong's first self-contained microgrid on Town Island. Powered entirely by solar, wind and battery storage, it is completely isolated from the main grid. This exercise has enabled us to gain knowledge and experience in developing microgrids, especially with renewables and storage devices. In recent years, we have continued the exploration through projects like the new partnership on a smart hybrid solar inverter system in Australia.

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In 2016, EnergyAustralia teamed up with Redback Technologies to promote a smart hybrid solar inverter system to its customers. The system combines a smart solar inverter, battery enclosure and “intelligent” energy management software in a complete package, which allows customers to choose how they use, save and even sell energy captured from their rooftop solar panels. The aim of the partnership is to invest in the development of reliable, affordable and cleaner technology, which puts the customer more in control of their energy consumption.

## ELECTRIC VEHICLES

Globally, electric vehicles (EVs) have gained significant traction and investment in recent years. While manufacturers from Japan, the US and Mainland China are delivering new models, governments are also providing incentives for consumers to buy these vehicles. Although most EVs do have some limitations on their range and charging time, utilisation and adoption in urbanised areas is increasing. What has become critical in determining the

rate of electric car adoption in a city, is the planning and deployment of charging stations, especially their location, accessibility and availability.

### Smart Charge

CLP and HKT formed Smart Charge in 2016 to offer electric vehicle charging solutions in Hong Kong. Smart Charge aims to develop a comprehensive EV charging network that provides safe, reliable and convenient EV charging services in residential and public areas. The joint venture shows that we can provide not just electricity, but also adjacent energy services – a one-stop service for electric vehicle users.



## NEW HORIZONS – A Platform to Share Intellectual Capital

One way to understand and keep track of the emerging issues affecting the industry, is to encourage new ideas and experience sharing. Launched in 2015, CLP's New Horizons website provides a platform for industry experts to share their latest insights on market trends and innovations in the energy sector and facilitates discussions on how we can work together to achieve a more sustainable energy future.



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REPORTING SCOPE
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SUSTAINABILITY COMMITTEE REPORT

## REPORTING SCOPE 102-45

**102-48** For 2015 to 2016, there were no material restatements of the quantitative Key Performance Indicators.

**102-49** In 2016, the major changes in our reporting scope included: addition of the Sihong Solar, Xicun II Solar and Xundian I Wind Farm Power Stations to our environmental reporting scope, which completed their first full calendar year of operation under CLP ownership in 2016.

Below is the definition of the company boundary for each of the main categories of data included in this Report. Please refer to our 2016 Annual Report for more details on the entities included in our consolidated financial statements.

### FINANCE

Selected financial figures are extracted from our Annual Report and include the financial statements of CLP and its subsidiaries as well as the Group's interests in Joint Ventures and Associate in accordance with Hong

Kong Financial Reporting Standards (HKFRS) issued by the Hong Kong Institute of Certified Public Accountants (HKICPA). For a detailed description of the financial reporting scope, please refer to the accounting policy for consolidation on pages 182-183 of our 2016 Annual Report.

### ENVIRONMENT

#### *Resource Use and Emissions*

Includes all entities which hold power assets, transmission and distribution infrastructure or fuel storage facilities and satisfy all the criteria below:

- That pose material impact to the environment;
- That are under CLP's operational control, defined as full authority to implement CLP's operating policies; and
- That have been operating for a full calendar year.

100% of the performance data for in scope entities is reported without adjustment of the data to reflect our equity share, unless otherwise stated.

#### *Climate Vision 2050 Target Performance*

Includes all entities which hold power generation assets.

- Entities are included on an equity basis, meaning the definition of operational control is not considered, only whether CLP holds an equity share; and
- The scope includes all entities that were in operation at some point during the reporting year, meaning assets which were acquired during the reporting year are included despite not having been in operation for a full calendar year under CLP ownership.

Performance data is consolidated on an equity basis – i.e. if CLP holds a fraction of the total entity, performance is consolidated on a pro rata basis in accordance with CLP's equity holding.

Some statistical data derived from our overseas operations may not be strictly comparable because local and / or regulatory definitions may vary.

### PEOPLE: EMPLOYEES

Includes all people employed by CLP entities or their subsidiaries. It does not include employees in our Joint Ventures, Joint Operations or Associate.

### PEOPLE: SAFETY

Includes all entities which hold power assets, transmission and distribution infrastructure, fuel storage facilities or regional office areas:

- That are wholly owned or majority owned by CLP; or
- That are under CLP's operational control, defined as full authority to implement CLP's operating policies; and
- That are under construction or in operation.



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## REFERENCE GUIDELINES

### Global Reporting Initiative (GRI)

The content of this report is prepared in reference to the GRI Sustainability Reporting Standards as well as the Electric Utilities Sector Disclosures. The GRI is an international independent organisation which provides the world's most widely used standards on sustainability reporting. CLP has been reporting with reference to the GRI since 2007. This is the first year that CLP has adopted the GRI Sustainability Reporting Standards (GRI Standards), which were published in late 2016. The GRI Content Index can be found here.

### International Integrated Reporting Council (IIRC)

This report makes reference to the guidelines of the International Integrated Reporting Council, particularly on the concept of the six capitals. The IIRC is a global coalition that created the International <IR> Framework that has become a widely used guideline for integrated reporting. CLP's Annual Report has been reporting with reference to this guideline since 2011. This is the first year the application

of the International <IR> Framework has been extended to influence or shape the Sustainability Report, as we continue to move towards a more integrated reporting approach.

### Hong Kong Stock Exchange Environmental, Social and Governance (ESG) Reporting Guide

This report satisfies the 'comply or explain' requirements as well as the 'recommended' disclosures of the Hong Kong Stock Exchange Environmental, Social and Governance (ESG) Reporting Guide (ESG Guide).

The Hong Kong Stock Exchange first published the ESG Guide in 2012 as "recommended practice" for issuers. In December 2015, the Hong Kong Stock Exchange upgraded the ESG Reporting requirements for General Disclosures from voluntary to a "comply or explain" approach. The upgrade of the General Disclosures to "comply or explain" will be effective for issuers with financial years commencing on or after 1 January 2016. The upgrade of the Key Performance Indicators (KPIs) in the "Environmental" Subject Area to

"comply or explain" will be effective for listed companies with a financial year commencing on or after 1 January 2017.

As a Hong Kong listed company, CLP first began reporting according to the ESG Guide in 2012. The full ESG Content Index can be found here.

### Greenhouse Gas Emissions

CLP's greenhouse gas (GHG) emissions inventory covers the six originally specified gases in accordance with the Kyoto Protocol. We have also considered the seventh one added under the Kyoto Protocol, namely nitrogen trifluoride (NF<sub>3</sub>), but have deemed it immaterial to our operations. Our GHG emissions are reported with reference to: the World Resources Institute (WRI) / World Business Council for Sustainable Development (WBCSD) GHG Protocol, the Intergovernmental Panel on Climate Change's Guidelines for National Greenhouse Gas Inventories 2006, and international standard ISO 14064.

To facilitate implementation, in 2007, we developed the first version of our Group-wide GHG reporting guideline with reference to the aforementioned guidelines. The reporting guideline is regularly reviewed in accordance with CLP practice at least every three years.

### Financial Data

All financial data in this report is in alignment with the figures published in the audited financial statements as published in our Annual Report. The financial statements are prepared in accordance with Hong Kong Financial Reporting Standards (HKFRS) issued by the Hong Kong Institute of Certified Public Accountants (HKICPA) and the Hong Kong Companies Ordinance.

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## INTERNAL REPORTING SYSTEMS AND STANDARDS

To ensure the relevant internal and external guidelines are implemented in the preparation of this Report, we rely on internal reporting systems and standards that have been developed with the guidance and expertise of our Group Function teams.

### Reporting Systems for Environment Group Operations Information System

This customised system, previously known as Group Environmental Information System, represents the first cloud-based Group-wide reporting system for CLP. The system provides a user friendly environment, with a built-in internal data approval sequence, as well as automated presentation and reporting functions. The system was launched in 2014.

### *Air Emissions (SO<sub>2</sub> / NO<sub>x</sub> / Total PM)*

We continuously monitor air emissions for facilities under CLP's operational control through real-time systems installed on site. We supplement this approach with stack sampling and mass-balance calculation methodologies accepted by local regulations if and when it is required by regulators or we deem it necessary.

### *Fuel Consumption for Power Generation*

Fuel consumption calculations for facilities under CLP's operational control depend on the type of fuel. For coal consumption, fuel consumed is calculated based on invoices and receipts for coal deliveries as well as recorded actual coal used in the combustion process. Gas consumed for electricity generation is based on calculations from meter readings recorded at the respective facility. Oil consumption for electricity generation is calculated based on measurement of changes in the volume of oil storage tanks. Fuel consumption for power generation is reported in Terajoules (TJ).

### *Environmental Regulatory Non-Compliances Resulting in Fines or Prosecution*

This number is compiled for all assets under our operational control and each incident is classified and recorded according to notifications from local authorities and based on prevailing regulatory or legal definitions. Each incident is classified and recorded at the time of notification of the fine or prosecution. Instances of Environmental license limit exceedances & other non-compliances and Environmental regulatory non-compliances resulting in fines or prosecutions are mutually exclusive.

### *Carbon Emissions Intensity*

In order to track progress against our "Climate Vision 2050", data is collected directly from most of our facilities, but for a few minority-owned facilities where we have difficulty in directly obtaining the data, best conservative estimates are made based upon historical performance data or benchmarking with similar facilities. Our carbon emissions are tracked at both facility and Group levels under

the categories of Scope 1: Direct GHG Emissions and Scope 2: Indirect GHG Emissions as defined by the GHG Protocol. Due to data availability constraints, we include Scope 1 and Scope 2 emissions for those facilities which fall within our Environmental Scope, and Scope 1 emissions only for those facilities which fall outside our Environmental Scope. The Group's carbon intensity calculation is based upon net electricity sent-out from all operating facilities across our portfolio.

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## Reporting Systems For Safety *Group Safety Information System (GSIS)*

Safety incident on the assets, which fall within CLP's safety reporting scope, is collected and centralised via our IT-based system. GSIS is currently used in Hong Kong, Mainland China, India, Yallourn (Australia).

For the definition of the safety performance, it is clearly shown in the CLP Group HSSE Management Standard – Performance Monitoring and Reporting (HSSE-STD-14-001).

## Reporting Systems For Human Resources

### *Human Resources Information System*

The human resources teams within each of our major business units including Hong Kong, Australia, India and Mainland China, each have their own information system in place to collect local employment-related data. Consolidation of Group level data is coordinated by our Group Human Resources (GHR) function.

The Human Resources metrics we use are designed to be relevant to our business, and to provide us with meaningful and reliable information that enables us to manage the attraction, retention and development of staff, and to report externally. Definitions of our human resources metrics are provided in the Notes to the Key Performance Indicators table.

## Reporting Systems for Code of Conduct Violations

Our Code of Conduct applies across the entire CLP Group of Companies including CLP Holdings, its wholly owned subsidiaries, and joint ventures or companies in which CLP holds a controlling interest. All employees of CLP, irrespective of their positions and functions, are expected to fully adhere to the principles contained in the Code. In the case of joint ventures or companies in which CLP does not hold a controlling interest, the representatives concerned are expected to act in accordance with the Code themselves and to make a concerted effort to influence those

with whom they are working to act to similar standards of integrity and ethical behaviour. Likewise, contractors working for CLP are encouraged to follow CLP's Code of Conduct for the duration of their contract with CLP.

Potential violations of the code are reported to Group Internal Audit (GIA) by employees, vendors, contractors and GIA auditors. Communications are received via: anonymous letters, anonymous emails and phone calls to GIA. All potential violations of the Code are investigated by GIA (other than human resources-related potential violations which are investigated by GHR). Only GIA and GHR assess whether an issue is a violation of the Code of Conduct. Management is responsible for the discipline of their employees who violate the code. Management's proposed disciplinary action is reviewed for consistency by the Code of Conduct Committee.

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## Reporting Systems For Non-Financial (Operations) Data Management

We have developed and implemented an in-house non-financial data reporting and assurance standard. Responsibilities are placed specifically on responsible staff at asset, regional and Group level, thus achieving a desired level of check and balance. We also operate an online operational data management platform to facilitate effective and streamlined data collection and approval, thus reducing the chance of human error. Our non-financial data reporting process and timelines are aligned with financial data.

## Reporting Systems For Community

We have established a standardised online reporting system to improve the integrity of our community-initiatives data across the Group. The separation of data collection and approval process by creating the role of reporter, approver and form administrator, establishes internal controls for the reporting process. The system collects data at the Group and regional levels including Hong Kong, Mainland China, India and Australia. Information on community initiatives programmes collected includes the theme, partner, spending, beneficiary, volunteer hours and impact. The analysis function of the system also enhances the overall effectiveness and efficiency in reviewing and reporting our community initiatives and reduces the chance of human error.

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## SUSTAINABILITY COMMITTEE REPORT

### Members

The Sustainability Committee is appointed by CLP Holdings' Board of Directors and the members of the Committee are:

- Mr Richard Lancaster (Chief Executive Officer) as the Chairman;
- Mr Nicholas C. Allen (Independent Non-executive Director);
- Mrs Fanny Law (Independent Non-executive Director);
- Ms Irene Lee (Independent Non-executive Director);
- Mr Andrew Brandler (Non-executive Director); and
- Ms Quince Chong (Chief Corporate Development Officer).

Full biographies of the members are set out on pages 90-93 in our Annual Report.

### Meetings and Attendance

The Committee meets as frequently as required but not less than twice a year and any Committee member may call a meeting. Between 1 January 2016 and the date of this Report, the Committee met four times (including three times in 2016 and once in 2017).

### Responsibilities

#### *Terms of reference*

The current terms of reference were adopted in February 2015 and are set out in the CLP Code and on the CLP's and the Stock Exchange's websites.

#### *Accountability*

The Committee is accountable to the Board. The Committee is authorised by the Board, at CLP's expense, to investigate all matters that fall within the Terms of Reference. The objectives of the Committee are to oversee management and advise the Board on matters required to enable:

- the CLP Group to operate on a sustainable basis for the benefit of current and future generations;
  - sustainable growth by maintaining and enhancing CLP Group's economic, environmental, human, technological and social capital in the long term; and
  - the effective management of CLP Group's sustainability risks.
- Primary responsibilities**
- The Committee's primary responsibilities include:
- reviewing, endorsing and reporting to the Board on CLP's sustainability frameworks, standards, priorities and goals and overseeing CLP group-level strategies, policies and practices on sustainability matters to attain those standards and goals;
  - reviewing and reporting to relevant Board Committees on key international sustainability trends, benchmarking against peers, sustainability risks and opportunities and other emerging issues;
  - overseeing, reviewing and evaluating CLP Group's sustainability performance in terms of internationally-recognised metrics relevant to the industry, as well as the requirements of sustainability stock indices and the desirability of CLP's inclusion in those indices;
  - reviewing and advising the Board on CLP's public reporting with regard to its performance on Sustainability matters; and
  - overseeing CLP's community, charitable and environmental partnerships, strategies and related group-level policies and making recommendations to the Board on any changes to those partnerships, strategies and policies.



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## Summary of Work Done

The work performed by the Committee during this period is summarised below.

AREAS OF FOCUS	COMMENTARY
<b>Sustainability goals, priorities, policies &amp; frameworks</b>	
Sustainability Principles and Goals	In 2015, CLP's new Sustainability Principles were established under the four focus areas of environment, community, people and economic sustainability. In 2016, the Committee deliberated on the 17 UN Sustainable Development Goals (SDGs) with a view to exploring how some of these principles could be incorporated into our medium or longer term sustainability goals.
Operational Health, Safety, Security & Environment Standards	The Committee was briefed on the newly established Operational Health, Safety, Security & Environment (HSSE) Coordination Committee. The Committee also considered and reviewed the HSSE framework, including its governance structure and its major new initiatives.
Carbon Metrics	Recognising that an evolution of CLP's business model would potentially increase the proportion of earnings contribution from non-generation business, the Committee discussed the relevance of the carbon intensity measurement of our generation assets. A preview of how CLP's carbon metrics might need to be developed in line with the evolution of the business, the Group investment strategy and external changes was presented to and considered by the Committee.
<b>Sustainability Trends</b>	
Environmental, Social and Governance (ESG)	The Committee devoted time in reviewing the potential drivers and trends behind emerging sustainability-related business risks and opportunities including the following: <ul style="list-style-type: none"> <li>• longer term ESG trends, such as the continuing increase in expectations on reporting and transparency; and</li> <li>• prospective risks and opportunities which might arise from the UN SDGs.</li> </ul>
Technology, disruption and innovation opportunities	The Committee took note of the potential impact of the recent developments in technology and innovation on our industry and business and the Committee considered the related potential opportunities and challenges for CLP.
Climate change-related developments	The Committee reviewed and discussed updates on climate change-related developments and the implications for CLP, with particular attention paid to: <ul style="list-style-type: none"> <li>• the speed of the ratification and implementation of the Paris Agreement;</li> <li>• the global trends in terms of political and government actions on climate change issues; and</li> <li>• the growing focus of certain investor groups on companies with carbon exposure.</li> </ul>

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AREAS OF FOCUS	COMMENTARY																
Sustainability performance																	
Sustainability performance against external sustainability indices	<p>The Committee reviewed CLP's sustainability performance against external sustainability indices with the ultimate objective of improving our sustainability performance. The Committee also analysed and acknowledged the achievements of our 2015 sustainability performance. Our DJSI score increased by 28% to an all-time high of 73, securing CLP's position on the DJSI Asia Pacific Index. CLP received the top CDP score of "A-" for companies in Hong Kong, while our Hang Seng Corporate Sustainability Index score in 2016 remained unchanged at "AA", similar to previous years.</p> <p>Further details of selected 2016 sustainability ratings for CLP's 2015 sustainability performance is shown in the following table. The scores reflect the performance of the year before.</p> <table><tr><th>Index Name</th><th>2016 Score</th><th>2015 Score</th><th>2014 Score</th></tr><tr><td>Dow Jones Sustainability Index (DJSI)</td><td>73</td><td>57</td><td>63</td></tr><tr><td>CDP – Climate</td><td>A- *</td><td>96 (C)</td><td>95 (B)</td></tr><tr><td>Hang Seng Corporate Sustainability Index</td><td>AA</td><td>AA</td><td>AA</td></tr></table> <p>* There was a change in scoring methodology for the 2016 Score from the previous letter and numerical scores for performance and disclosure, respectively, to a combined letter score.</p>	Index Name	2016 Score	2015 Score	2014 Score	Dow Jones Sustainability Index (DJSI)	73	57	63	CDP – Climate	A- *	96 (C)	95 (B)	Hang Seng Corporate Sustainability Index	AA	AA	AA
Index Name	2016 Score	2015 Score	2014 Score														
Dow Jones Sustainability Index (DJSI)	73	57	63														
CDP – Climate	A- *	96 (C)	95 (B)														
Hang Seng Corporate Sustainability Index	AA	AA	AA														

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AREAS OF FOCUS	COMMENTARY
<b>Sustainability Reporting</b>	
Sustainability Reporting Standards	<p>The Committee considered the evolving approach in preparing the Sustainability Report both in terms of industry standards and regulatory compliance.</p> <p>The Committee endorsed the preparation of the 2016 Sustainability Report in accordance with the Core level of the new GRI Sustainability Reporting Standards. The Committee also reviewed the 2016 In Essence Sustainability Report. The Committee noted the related Sustainability Assurance findings and the increase in the number of KPIs assured from 31 data points in 2015 to 35 in 2016.</p> <p>The Committee also considered and endorsed the presentation of the contents of the 2016 Sustainability Report and how it meets the Stock Exchange's ESG Reporting Guide "comply or explain" and "recommended disclosure" requirements, as well as the GRI Sustainability Reporting Standards. The Committee also took note of the inclusion of the Five-year Summary of statistics on the Group's environmental and social performance in this Annual Report (pages 242 and 243) which contains cross-references to the KPIs suggested in the Stock Exchange's ESG Reporting Guide.</p>
Sustainability data assurance	The continuing practice of commissioning independent assurance of selected KPIs was reported to and acknowledged by the Committee. The oversight of the assurance of the metrics and reporting is the responsibility of the Audit Committee.
<b>Community, charitable and environmental partnerships and initiatives</b>	
Community initiatives	<p>The Committee reviewed management's report on the community initiatives undertaken by CLP in 2015 and supported the proposed overall strategy for 2016 as well as the specific initiatives in terms of the following:</p> <ul style="list-style-type: none"> <li>• spending by country, theme and programme;</li> <li>• volunteering contributions; and</li> <li>• the number of programmes and beneficiaries.</li> </ul>

## Looking Ahead

The Committee will continue to review its role of supporting the Board and overseeing management in the development, implementation, measurement and reporting of the Group's social, environmental and ethical performance. This will ultimately enable the CLP Group to operate on a sustainable basis for the benefit of current and future generations.

### Richard Lancaster

Chairman, Sustainability Committee

Hong Kong, 27 February 2017

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## Hong Kong Stock Exchange Environmental, Social and Governance (ESG) Content Index

Subject Areas, Aspects, General Disclosure and KPIs		Explanation / Chapter or Sub-chapter reference to the 2016 Sustainability Report
A. Environmental		
<b>Aspect A1</b>	<b>Emissions</b>	
General Disclosure	<p>Information on:</p> <p>(a) the policies; and</p> <p>(b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste.</p> <p><i>Note: Air emissions include NO<sub>x</sub>, SO<sub>x</sub>, and other pollutants regulated under national laws and regulations. Greenhouse gases include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride. Hazardous wastes are those defined by national regulations.</i></p>	<p>Natural Capital – Greenhouse Gas Emissions</p> <p>Natural Capital – Air Emissions</p> <p>Natural Capital – Waste</p> <p>Appendix – Reference Guidelines</p>
KPI A1.1	The types of emissions and respective emissions data.	<p>Natural Capital – Air Emissions</p> <p>Our Business &amp; 2016 Highlights – 2016 Key Performance Indicators</p>
KPI A1.2	Greenhouse gas emissions in total (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	<p>Natural Capital – Greenhouse Gas Emissions</p> <p>Our Business &amp; 2016 Highlights – 2016 Key Performance Indicators</p>
KPI A1.3	Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	<p>Natural Capital – Waste</p> <p>Our Business &amp; 2016 Highlights – 2016 Key Performance Indicators</p>
KPI A1.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	<p>Natural Capital – Waste</p> <p>Our Business &amp; 2016 Highlights – 2016 Key Performance Indicators</p>
KPI A1.5	Description of measures to mitigate emissions and results achieved.	<p>Natural Capital – Greenhouse Gas Emissions</p> <p>Natural Capital – Air Emissions</p> <p>Natural Capital – Waste</p>
KPI A1.6	Description of how hazardous and non-hazardous wastes are handled, reduction initiatives and results achieved.	Natural Capital – Waste

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Subject Areas, Aspects, General Disclosure and KPIs		Explanation / Chapter or Sub-chapter reference to the 2016 Sustainability Report
<b>A. Environmental</b>		
<b>Aspect A2</b>	<b>Use of Resources</b>	
General Disclosure	Policies on the efficient use of resources including energy, water and other raw materials. <i>Note: Resources may be used in production, in storage, transportation, in buildings, electronic equipment, etc.</i>	Manufactured Capital – Power Generation and Delivery Natural Capital – Water
KPI A2.1	Direct and / or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of production volume, per facility).	Manufactured Capital – Power Generation and Delivery Our Business & 2016 Highlights – 2016 Key Performance Indicators
KPI A2.2	Water consumption in total and intensity (e.g. per unit of production volume, per facility).	Natural Capital – Water Our Business & 2016 Highlights – 2016 Key Performance Indicators
KPI A2.3	Description of energy use efficiency initiatives and results achieved.	Manufactured Capital – Power Generation and Delivery
KPI A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency initiatives and results achieved.	Natural Capital – Water
KPI A2.5	Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced.	At CLP, our primary product is electricity, which requires no packaging for delivery to customers. Packaging material used for auxiliary products only accounts for an immaterial amount. The nature of electricity also does not allow recalls of our primary product.
<b>Aspect A3</b>	<b>The Environment and Natural Resources</b>	
General Disclosure	Policies on minimising the issuer's significant impact on the environment and natural resources.	Natural Capital – Biodiversity
KPI A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	Natural Capital – Biodiversity
<b>B. Social</b>		
<b>Employment and Labour Practices</b>		
<b>Aspect B1</b>	<b>Employment</b>	
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare.	Human Capital – Employees, Increasing Diversity, Respect for Human Rights, Short-term Employment and Use of Contractors, Competitive and Sustainable Benefits, Organisational Agility
KPI B1.1	Total workforce by gender, employment type, age group and geographical region.	Human Capital – Employees Our Business & 2016 Highlights – 2016 Key Performance Indicators
KPI B1.2	Employee turnover rate by gender, age group and geographical region.	Human Capital – Competitive Benefits Our Business & 2016 Highlights – 2016 Key Performance Indicators



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Subject Areas, Aspects, General Disclosure and KPIs		Explanation / Chapter or Sub-chapter reference to the 2016 Sustainability Report
<b>Aspect B2</b>	<b>Health and Safety</b>	
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer. relating to providing a safe working environment and protecting employees from occupational hazards.	Human Capital – Health, Safety, Security and Environment
KPI B2.1	Number and rate of work-related fatalities.	Human Capital – Health, Safety, Security and Environment Our Business & 2016 Highlights – 2016 Key Performance Indicators
KPI B2.2	Lost days due to work injury.	Human Capital – Health, Safety, Security and Environment Our Business & 2016 Highlights – 2016 Key Performance Indicators
KPI B2.3	Description of occupational health and safety measures adopted, how they are implemented and monitored.	Human Capital – Health, Safety, Security and Environment
<b>Aspect B3</b>	<b>Development and Training</b>	
General Disclosure	Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities. <i>Note: Training refers to vocational training. It may include internal and external courses paid by the employer.</i>	Human Capital – Organisational Agility
KPI B3.1	The percentage of employees trained by gender and employee category (e.g. senior management, middle management).	Human Capital – Increasing Diversity
KPI B3.2	The average training hours completed per employee by gender and employee category.	Human Capital – Organisational Agility Our Business & 2016 Highlights – 2016 Key Performance Indicators
<b>Aspect B4</b>	<b>Labour Standards</b>	
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour.	Manufactured Capital – Procurement Human Capital – Respect for Human Rights
KPI B4.1	Description of measures to review employment practices to avoid child and forced labour.	Manufactured Capital – Procurement Human Capital – Respect for Human Rights
KPI B4.2	Description of steps taken to eliminate such practices when discovered.	Manufactured Capital – Procurement Human Capital – Respect for Human Rights
<b>Operating Practices</b>		
<b>Aspect B5</b>	<b>Supply Chain Management</b>	
General Disclosure	Policies on managing environmental and social risks of supply chain.	Manufactured Capital – Procurement
KPI B5.1	Number of suppliers by geographical region.	Manufactured Capital – Procurement

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Operating Practices		
<b>Aspect B5</b>	<b>Supply Chain Management</b>	
KPI B5.2	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored.	Manufactured Capital – Procurement
<b>Aspect B6</b>	<b>Product Responsibility</b>	
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress.	Social and Relationship Capital – Customers
KPI B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons.	At CLP, our primary product is electricity, which requires no packaging for delivery to customers. Packaging material used for auxiliary products only accounts for an immaterial amount. The nature of electricity also does not allow recalls of our primary product.
KPI B6.2	Number of products and service related complaints received and how they are dealt with.	Social and Relationship Capital – Customers
KPI B6.3	Description of practices relating to observing and protecting intellectual property rights.	Social and Relationship Capital – Customers
KPI B6.4	Description of quality assurance process and recall procedures.	Social and Relationship Capital – Customers
KPI B6.5	Description of consumer data protection and privacy policies, how they are implemented and monitored.	Social and Relationship Capital – Customers
<b>Aspect B7</b>	<b>Anti-corruption</b>	
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering.	Sustainability at CLP – Code of Conduct
KPI B7.1	Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases.	Sustainability at CLP – Code of Conduct Our Business & 2016 Highlights – 2016 Key Performance Indicators
KPI B7.2	Description of preventive measures and whistle-blowing procedures, how they are implemented and monitored.	Sustainability at CLP – Code of Conduct
Community		
<b>Aspect B8</b>	<b>Community Investment</b>	
General Disclosure	Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests.	Social and Relationship Capital – Communities, NGOs and Media
KPI B8.1	Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport).	Social and Relationship Capital – Communities, NGOs and Media
KPI B8.2	Resources contributed (e.g. money or time) to the focus area.	Social and Relationship Capital – Communities, NGOs and Media

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## Global Reporting Initiative (GRI) Content Index

GRI Standard	Disclosure		Page number(s) and/or URL(s)	Omission		
				Part Omitted	Reason	Explanation
GRI 101: Foundation 2016						
General Disclosures						
GRI 102: General Disclosures 2016	Organizational profile					
	102-1	Name of the organization	P4			
	102-2	Activities, brands, products, and services	P4			
	102-3	Location of headquarters	P4			
	102-4	Location of operations	P4			
	102-5	Ownership and legal form	P4, 7			
	102-6	Markets served	P4			
	102-7	Scale of the organization	P7, 15, 173			
	102-8	Information on employees and other workers	P175, 178, 182			
	102-9	Supply chain	P4, 136			
	102-10	Significant changes to the organization and its supply chain	P8, 126, 136			
	102-11	Precautionary Principle or approach	P140			
	102-12	External initiatives	P70			
	102-13	Membership of associations	P71			
	EU1	Installed capacity, broken down by primary energy source and by regulatory regime	P125			
	EU2	Net energy output, broken down by primary energy source and by regulatory regime	P125			
	EU3	Number of residential, industrial, institutional and commercial customer accounts	P82			
	EU4	Length of above and underground transmission and distribution lines by regulatory regime	P131			
	EU5	Allocation CO2 emissions allowances or equivalent, broken down by carbon trading framework	P144			
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	102-15	Key impacts, risks, and opportunities	P25-39, 44			
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	102-17	Mechanisms for advice and concerns about ethics	P58			

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GRI 102: General Disclosures 2016	Governance				
	102-18	Governance structure	P45, 47		
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	102-20	Executive-level responsibility for economic, environmental, and social topics	P45		
	102-21	Consulting stakeholders on economic, environmental, and social topics	P67		
	102-22	Composition of the highest governance body and its committees	P47 P94 (2016 Annual Report)		
	102-23	Chair of the highest governance body	P47 P94 (2016 Annual Report)		
	102-24	Nominating and selecting the highest governance body	P54		
	102-25	Conflicts of interest	P50		
	102-26	Role of highest governance body in setting purpose, values, and strategy	P48		
	102-27	Collective knowledge of highest governance body	P55		
	102-28	Evaluating the highest governance body's performance	P55		
	102-29	Identifying and managing economic, environmental, and social impacts	P48, 50		
	102-30	Effectiveness of risk management processes	P50		
	102-31	Review of economic, environmental, and social topics	P48, 50		
	102-32	Highest governance body's role in sustainability reporting	P48		
	102-33	Communicating critical concerns	P67		
	102-34	Nature and total number of critical concerns	P67		
	102-35	Remuneration policies	P56		
	102-36	Process for determining remuneration	P183		
	102-37	Stakeholders involvement in remuneration	P56, 183		
	102-38	Annual total compensation ratio	Nil	Not applicable	We will consider disclosures upon establishment of common global standard of these metrics.
	102-39	Percentage increase in annual total compensation ratio	Nil	Not applicable	We will consider disclosures upon establishment of common global standard of these metrics.

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GRI 102: General Disclosures 2016	Stakeholder engagement					
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	102-42	Identifying and selecting stakeholders	P63-64			
	102-43	Approach to stakeholder engagement	P63-64, 83			
	102-44	Key topics and concerns raised	P63, 65-73, 77-79, 95-97, 106			
	Reporting practice					
	102-45	Entities included in the consolidated financial statements	P19, P196			
	102-46	Defining report content and topic Boundaries	P18-21			
	102-47	List of material topics	P21-22			
	102-48	Restatements of information	P101, 111, 158, 196			
	102-49	Changes in reporting	P23, 196			
	102-50	Reporting period	Welcome			
	102-51	Date of most recent report	Welcome			
	102-52	Reporting cycle	Welcome			
	102-53	Contact point for questions regarding the report	P225			
	102-54	Claims of reporting in accordance with the GRI Standards	Welcome			
	102-55	GRI content index	P209			
	102-56	External assurance	Welcome			
	GRI 200 Economic Standard Series					
Economic Performance						
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	P23			
	103-2	The management approach and its components	P119			
	103-3	Evaluation of the management approach	P119, 121			
GRI 201: Economic Performance 2016	201-1	Direct economic value generated and distributed	P9-10, 14, 111			
	201-2	Financial implications and other risks and opportunities due to climate change	P25-26, 30, 34-36			
	201-3	Defined benefit plan obligations and other retirement plans	P173			
	201-4	Financial assistance received from government	P68			



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GRI 200 Economic Standard Series						
Market Presence						
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	P179			
	103-2	The management approach and its components	P179			
	103-3	Evaluation of the management approach	P179			
GRI 202: Market Presence 2016	202-1	Ratios of standard entry level wage by gender compared to local minimum wage	P179			
	202-2	Proportion of senior management hired from the local community	P179			
Indirect Economic Impacts						
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	P111			
	103-2	The management approach and its components	P9-10, 111			
	103-3	Evaluation of the management approach	P101			
GRI 203: Indirect Economic Impacts 2016	203-1	Infrastructure investments and services supported	P9-10, 101-111			
	203-2	Significant indirect economic impacts	P9-10, 101-111			
Procurement Practices						
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	P136			
	103-2	The management approach and its components	P136			
	103-3	Evaluation of the management approach	P136			
GRI 204: Procurement Practices 2016	204-1	Proportion of spending on local suppliers	P137			
Anti-corruption						
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	P40			
	103-2	The management approach and its components	P58			
	103-3	Evaluation of the management approach	P58			
GRI 205: Anti-corruption 2016	205-1	Operations assessed for risks related to corruption	P58			
	205-2	Communication and training about anti-corruption policies and procedures	P58			
	205-3	Confirmed incidents of corruption and actions taken	P14, 58			
Anti-competitive Behavior						
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	P59			
	103-2	The management approach and its components	P59			
	103-3	Evaluation of the management approach	P59			
GRI 206: Anti-competitive Behavior 2016	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	P59			

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GRI 300 Environmental Standards Series						
Materials						
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	P147			
	103-2	The management approach and its components Sector Specific: Long-term strategy for managing and phasing out high level and low level in-service PCBs	P147			
	103-3	Evaluation of the management approach	P147			
GRI 301: Materials 2016	301-1	Materials used by weight or volume Sector Specific: Report in-use inventory of solid and liquid high level and low level PCBs contained in equipment	P147			
	301-2	Recycled input materials used	P161			
	301-3	Reclaimed products and their packaging materials	Nil	All	Not applicable	At CLP, our primary product is electricity, which requires no packaging for delivery to customers. Packaging material used for auxiliary products only accounts for an immaterial amount. The nature of electricity also does not allow recalls of our primary product.
Energy						
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	P126			
	103-2	The management approach and its components	P126			
	103-3	Evaluation of the management approach	P126			
GRI 302: Energy 2016	302-1	Energy consumption within the organization	P16, 126, 147			
	302-2	Energy consumption outside of the organization	P126			
	302-3	Energy intensity	P125			
	302-4	Reduction of energy consumption	P130			
	302-5	Reductions in energy requirements of products and services	P130			
Water						
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	P157			
	103-2	The management approach and its components Sector Specific: Collaborative approaches to manage watersheds and reservoirs and long-term planning for securing water resources	P157			
	103-3	Evaluation of the management approach	P157			

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GRI 300 Environmental Standards Series						
GRI 303: Water 2016	303-1	Water withdrawal by source Sector Specific: Overall water usage for processing, cooling and consumption in thermal and nuclear power plants, including use of water in ash handling and coal cleaning	P16			
	303-2	Water sources significantly affected by withdrawal of water	P158			
	303-3	Water recycled and reused	P158			
Biodiversity						
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	P162			
	103-2	The management approach and its components Sector Specific: Approaches for pest and vegetation management along transmission and distribution corridors	P162			
	103-3	Evaluation of the management approach	P162			
GRI 304: Biodiversity 2016	304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	P162			
	304-2	Significant impacts of activities, products, and services on biodiversity Sector Specific: Nature of significant direct and indirect impacts on biodiversity regarding maintenance of transmission line corridors, fragmentation and isolation, as well as impacts of thermal discharge	P162			
	304-3	Habitats protected or restored	P162			
	EU13	Biodiversity of offset habitats compared to the biodiversity of the affected areas	P162			
	304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	P162			
Emissions						
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	P138			
	103-2	The management approach and its components	P149, 153			
	103-3	Evaluation of the management approach	P149, 153			

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GRI 300 Environmental Standards Series						
GRI 305: Emissions 2016	305-1	Direct (Scope 1) GHG emissions Sector Specific: CO2e per MWh, breakdown by regulatory regime, for net generation from generating capacity, fossil fuel generation and estimated net delivery to end users including emissions from own generation	P16			
	305-2	Energy indirect (Scope 2) GHG emissions Sector Specific: CO2e per MWh, breakdown by regulatory regime, for estimated net delivery to end users including emissions from own generation	P16			
	305-3	Other indirect (Scope 3) GHG emissions	Nil	All	Information unavailable	Scope 3 GHG emissions in our sector is of much lower scale, but we are currently running an initiative to identify our most material Scope 3 GHG emissions, with the aim of commencing report in the next reporting cycle.
	305-4	GHG emissions intensity	P16, 149, 152			
	305-5	Reduction of GHG emissions	P149			
	305-6	Emissions of ozone-depleting substances (ODS)	Nil	All	Not applicable	Not material – CLP’s ODS inventory volume is very small. All ODS in our inventory is enclosed on machinery and CLP is in the process of phasing out all use of ODS.
	305-7	Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions Sector Specific: NOx, SOx and other significant air emissions per MWh for net generation from generating capacity and combustion power plants	P16, 153-154			
Effluents and Waste						
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	P159, 161			
	103-2	The management approach and its components Sector Specific: Management strategy and storage methods for different types of radioactive nuclear waste	P159, 161 P157, 159			
	103-3	Evaluation of the management approach	P157 P159			

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GRI 300 Environmental Standards Series						
GRI 306: Effluents and Waste 2016	306-1	Water discharge by quality and destination Sector Specific: Thermal discharges as part of the total volume of planned and unplanned water discharges	P16			
	306-2	Waste by type and disposal method Sector Specific: PCB waste as part of the total weight of hazardous and non-hazardous waste	P16, 160			
	306-3	Significant spills	P160			
	306-4	Transport of hazardous waste	P160			
	306-5	Water bodies affected by water discharges and/or runoff	P158			
Environmental Compliance						
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	P142			
	103-2	The management approach and its components	P142			
	103-3	Evaluation of the management approach	P142			
GRI 307: Environmental Compliance 2016	307-1	Non-compliance with environmental laws and regulations	P16, 142			
Supplier Environmental Assessment						
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	P136			
	103-2	The management approach and its components	P136			
	103-3	Evaluation of the management approach	P136			
GRI 308: Supplier Environmental Assessment 2016	308-1	New suppliers that were screened using environmental criteria	P137			
	308-2	Negative environmental impacts in the supply chain and actions taken	P137			



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Material Topics						
GRI 400 Social Standards Series						
Employment						
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	P163			
	103-2	The management approach and its components	P165-167, 173, 182-183, 186			
		Sector Specific: Programs and processes to ensure the availability of a skilled workforce Policies and requirements regarding health and safety of employees and employees of contractors and subcontractors				
	103-3	Evaluation of the management approach	P165-167, 173, 182-183, 186			
GRI 401: Employment 2016	401-1	New employee hires and employee turnover Sector Specific: Average length of tenure of employees leaving employment during the reporting period, breakdown by gender and age group	P15, 185			
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	P179			
	401-3	Parental leave	P184			
	EU15	Percentage of employees eligible to retire in the next 5 and 10 years broken down by job category and by region	P15, 175			
	EU17	Days worked by contractor and subcontractor employees involved in construction, operation & maintenance activities	P167			
	EU18	Percentage of contractor and subcontractor employees that have undergone relevant health and safety training	P167			
Labor/Management Relations						
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	P163			
	103-2	The management approach and its components	P181			
	103-3	Evaluation of the management approach	P181			
GRI 402: Labor/ Management Relations 2016	402-1	Minimum notice periods regarding operational changes	P181			

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Occupational Health and Safety						
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	P163			
	103-2	The management approach and its components	P165-168			
	103-3	Evaluation of the management approach	P165			
GRI 403: Occupational Health and Safety 2016	403-1	Workers representation in formal joint management-worker health and safety committees	P167			
	403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities Sector Specific: Health and safety performance of contractors and subcontractors working onsite or on behalf of the organisation off-site	P15, 168			
	403-3	Workers with high incidence or high risk of diseases related to their occupation	P171			
	403-4	Health and safety topics covered in formal agreements with trade unions	Nil	All	Information unavailable	We do not collect this information at this time.
	Training and Education					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	P163			
	103-2	The management approach and its components	P186			
	103-3	Evaluation of the management approach	P186			
GRI 404: Training and Education 2016	404-1	Average hours of training per year per employee	P15, 187-188			
	404-2	Programs for upgrading employee skills and transition assistance programs	P186			
	404-3	Percentage of employees receiving regular performance and career development reviews	P183			
Diversity and Equal Opportunity						
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	P163			
	103-2	The management approach and its components	P173			
	103-3	Evaluation of the management approach	P173			
GRI 405: Diversity and Equal Opportunity 2016	405-1	Diversity of governance bodies and employees	P51			
	405-2	Ratio of basic salary and remuneration of women to men	P179			

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Non-discrimination						
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	103-2	The management approach and its components	P181			
	103-3	The management approach and its components	P181			
GRI 406: Non-discrimination 2016	406-1	Incidents of discrimination and corrective actions taken	P181			
Freedom of Association and Collective Bargaining						
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	P136, 181			
	103-2	The management approach and its components	P136, 181			
	103-3	Sector Specific: Management mechanisms to address the right to organise, bargain and strike Evaluation of the management approach	P136, 181			
GRI 407: Freedom of Association and Collective Bargaining 2016	407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	P137, 181			
Child Labor						
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	P136, 180			
	103-2	The management approach and its components	P136, 180			
	103-3	Evaluation of the management approach	P136, 180			
GRI 408: Child Labor 2016	408-1	Operations and suppliers at significant risk for incidents of child labor	P137, 180			
Forced or Compulsory Labor						
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	P136, 180			
	103-2	The management approach and its components	P136, 180			
	103-3	Evaluation of the management approach	P136, 180			
GRI 409: Forced or Compulsory Labor 2016	409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	P137, 180			

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	103-2	The management approach and its components	P172			
	103-3	Evaluation of the management approach	P172			
GRI 410: Security Practices 2016	410-1	Security personnel trained in human rights policies or procedures	P172			
Rights of Indigenous Peoples						
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	P89			
	103-2	The management approach and its components	P89			
	103-3	Evaluation of the management approach	P89			
GRI 411: Rights of Indigenous Peoples 2016	411-1	Incidents of violations involving rights of indigenous peoples	P89			
Human Rights Assessment						
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	P179-181			
	103-2	The management approach and its components	P179-181			
	103-3	Evaluation of the management approach	P179-181			
GRI 412: Human Rights Assessment 2016	412-1	Operations that have been subject to human rights reviews or impact assessments	P180			
	412-2	Employee training on human rights policies or procedures	P180			
	412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	P8			
Local Communities						
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	P97			

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GRI 400 Social Standards Series						
GRI 103: Management Approach 2016	103-2	The management approach and its components Sector Specific: Stakeholder participation in the decision making process related to energy planning and infrastructure development Approach to managing the impacts of displacement. Explanation of whether the organisation's programmes for managing community impacts have been effective in mitigating negative impacts and maximising positive impacts.	P90, 98-99			
	103-3	Evaluation of the management approach	P90, 99-100			
GRI 413: Local Communities 2016	413-1	Operations with local community engagement, impact assessments, and development program	P100			
	413-2	Operations with significant actual and potential negative impacts on local communities	P90			
	EU22	Number of people physically or economically displaced and compensation, broken down by type of project	P89			
Supplier Social Assessment						
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	P136			
	103-2	The management approach and its components	P136			
	103-3	Evaluation of the management approach	P136			
GRI 414: Supplier Social Assessment 2016	414-1	New suppliers that were screened using social criteria	P137			
	414-2	Negative social impacts in the supply chain and actions taken	P137			
Public Policy						
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	P62			
	103-2	The management approach and its components	P68			
	103-3	Evaluation of the management approach	P68			
GRI 415: Public Policy 2016	415-1	Political contributions	P68			
Customer Health and Safety						
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	P132			



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GRI 400 Social Standards Series						
GRI 103: Management Approach 2016	103-2	The management approach and its components Sector Specific: Assessment of resource planning, generation, transmission, distribution and use and processes for assessing community health risks and risks identified	P132			
	103-3	Evaluation of the management approach	P132			
GRI 416: Customer Health and Safety 2016	416-1	Assessment of the health and safety impacts of product and service categories	P132			
	EU25	Number of injuries and fatalities to the public involving company assets, including legal judgments, settlements and pending legal cases of diseases	P88-89			
Marketing and Labeling						
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	P86			
	103-2	The management approach and its components	P86			
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Materiality Disclosures

CLP Holdings Limited

Mar 2017

Service

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## Contact Us

"We'd love to hear from you. Tell us what you think about our Sustainability Report!"

We encourage you to share your feedback with us. To show our continuous support of the community we serve, every year we make a donation to selected charitable organisations of HK\$60, up to a maximum cumulative amount of HK\$350,000, for every feedback we receive on our Annual Report, our Sustainability Report, and our Annual Report snapshot online.

### UPCOMING BENEFICIARIES

This year, our donations will be made towards the following organisations:

**Early Psychosis Foundation** strives to promote high-quality early psychosis intervention services, professional training and public awareness programmes.



**Early Psychosis Foundation**  
思覺基金

**Direction Association for the Handicapped** aims at promoting mutual help among people with severe physical disabilities in Hong Kong.



**路向四肢傷殘人士協會**  
Direction Association for the Handicapped

### RECENT BENEFICIARIES

Your participation from last year enabled us to support the following organisations and communities:

#### The Hong Kong Society for Rehabilitation

With the specific aim of improving the lives of children with disabilities in Sichuan province, professionals of The Hong Kong Society for Rehabilitation visited the Bazhong Welfare Home for Children in September 2016 and organised rehabilitation training workshops for its frontline health care workers.

#### Changing Young Lives Foundation

In 2016, CLP funded Changing Young Lives Foundation to launch a one-year programme for the children of new immigrant and low-income families. The programme aims to build the children's self-confidence and enhance their social and communication skills.

**Please send us your feedback on this Sustainability Report through any of the following ways:**

**Submit the Feedback Form Online**

**Email Us**

[SRfeedback@clp.com.hk](mailto:SRfeedback@clp.com.hk)

**Fax Us**

(852) 2678 8453

**Write to Us**

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**Dr Jeanne Ng**

Director – Group Sustainability

